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AMERICAN INDUSTRIES
STUDIES IN THEIR
COMMERCIAL PROBLEMS

Edited by
EDWIN F. GAY
Dean of the Graduate School of Business Administration, Harvard University

I
THE WOOL INDUSTRY

THE WOOL INDUSTRY

COMMERCIAL PROBLEMS OF THE AMERICAN WOOLEN AND WORSTED MANUFACTURE

BY

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CHICAGO NEW YORK
LONDON

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ON THIS UNEDITED PAGE I WANT TO EXPRESS SOME PORTION OF MY GRATITUDE TO THE EDITOR OF THIS SERIES FOR HIS STIMULATING AND CONSTRUCTIVE CRITICISM. IT GIVES ME GENUINE PLEASURE, THEREFORE, TO DEDICATE THIS BOOK TO

EDWIN FRANCIS GAY

PREFACE

Sather - 340 - 1920

THIS book is a study of commercial problems. Its purpose is to present the results of an examination of the industries producing woolen and worsted fabrics approached from the side of their buying and selling problems. It does not attempt to add anything to the existing body of excellent material covering sheep-breeding, wool-growing, the relation of the tariff to the growth of these industries, the technique of textile manufacturing, and the other more commonly treated features.

Sheep-breeding and wool-growing in the United States are adequately considered in a *Special Report on the Sheep Industry of the United States* (1892), issued by the Department of Agriculture of the Federal Government, and in various secondary works, such as Joseph E. Wing's *Sheep Farming in America.* J. Zipser, in his *Textile Raw Materials*, gives a good description of the technical aspects of wool and its treatment up to, and including, the spinning process. J. H. Clapham, in his *Woollen and Worsted Industries*, gives a clear and accurate statement of the main features of the mechanical processes of cloth-manufacture. A bulletin issued by the Department of Commerce and Labor, *Miscellaneous Series, number 34*, which appeared just as this study was going to press, contains a satisfactory summary of some noteworthy conditions of the men's factory-made clothing industry. Concerning the tariff, numerous publications have been issued. *The Bulletin* of the National Association of Wool Manufacturers treats of current developments in the tariff problems from the

protectionist side. *The Special Tariff Number*, March, 1909, may be mentioned as a particularly good résumé of the arguments in favor of tariff protection to the American woolen and worsted industries. Professor F. W. Taussig, in his *Tariff History of the United States*, and in his *Some Aspects of the Tariff*, traces in detail the relation between the tariff and the wool-growing and manufacturing industries. C. W. Wright, in his *Wool-Growing and the Tariff*, covers more fully the effects of the tariff upon wool-growing, and incidentally gives an admirable account of the development of the manufacturing industries down to 1860. The *Tariff Board Report* on Wool and Manufactures of Wool gives perhaps the fullest summary of these industries as they existed in this country in the year 1911–12. With these and other good books easily accessible, it does not seem to be advisable to give more than incidental attention to those phases of the subject which they have covered so well.

Early in this investigation it was observed that the characteristics of the woolen and worsted industries are determined, not so much by problems of raw material supply, or of cloth-production, as by the problems involved in marketing the finished fabrics. It became evident, for example, that the present relative importance of the output of worsteds, as compared with woolens, is not due to the greater number of sheep being grown which produce wool suitable for such fabrics. On the contrary, it appeared that in whatever connection exists between these phenomena, the change in the character of the demand for fabrics is the cause, and the change in the character of wool-growing the effect, rather than vice versa. Again, the large scale of the worsted mills and their marked geographic concentration seem to be largely due to the conditions under which staple

worsteds are sold. In other words, it became plain that in both industries, the causal forces in the development of the production activities are the wants and habits of the buying public. Therefore, the course of this development can only be satisfactorily explained as primarily a result of efforts to adjust these industries to developments and changes in the problems of textile-selling.

The body of printed matter covering these commercial phases of the subject is very meager. On this account, anyone working in this field is obliged to depend largely upon the knowledge, views, and opinions of those "in the trade." I have found the men engaged in the various commercial activities in these industries to be generous and frank in their attempts to help me find and accurately state the truth, and I take this occasion to express my keen appreciation of the assistance received from them. But these helpers have had points of view ranging from those of sheep-breeders in Montana to those of mill stylers in New York. It is probable, therefore, that I have not been able to interpret accurately all that has been said to me. I am conscious that, notwithstanding the exercise of all possible care, errors of fact as well as of judgment doubtless still remain in the book. I shall welcome correction of any of these errors.

It is with no illusions as to their perfection or finality that I let these chapters go from my hands. It is rather with the hope that the method of approach to the subject which I have employed, and which I believe is new, may be suggestive to workers in this and other fields. I am convinced that an important feature of college training for men entering business will be a much more thorough study of marketing problems than has hitherto been made. I believe, also, that economists will find a detailed study of

market distribution to be a most profitable field for investigation. I hope that it may be a conspicuous part of the mission of this book to arouse a larger interest in this field.

PAUL T. CHERINGTON.

Cambridge, Massachusetts,
July 12, 1916.

CONTENTS

CHAPTER I

THE WOOLEN AND WORSTED INDUSTRIES 1

The essential difference between woolens and worsteds. The woolen industry. Some of the main points in the history of the woolen industry. Its present size and location. The worsted industry. The history of the industry and its present characteristics. Commercial problems in relation to historical development. Power spinning and the development of selling houses. The chief purpose of this study.

CHAPTER II

THE IMPORTED WOOL SUPPLY 16

Raw materials of the American woolen and worsted industries. New wool. Recovered wool. Other raw materials. The recovered wool trade. Imported wools. Sources: Australia, South America, South Africa, New Zealand, Near East, United Kingdom. Comparative costs of production. Methods of handling the world's wool trade. Auction systems: Australian, London, Liverpool, Continental. Organization of the American wool-importing trade. Limit of merino wool production apparently reached. Change from range to paddock and farm types of wool-growing. Total world clip not increasing.

CHAPTER III

THE DOMESTIC WOOL SUPPLY 37

The transitional state of American sheep raising. The westward movement of the industry. The "territory wool" section. Characteristics of territory wools: (1) dominantly merino; (2) grown under range conditions; (3) carelessly packed. The "fleece wool" section. Characteristics of "fleece wools;" (1) largely cross-bred; (2) flocks small, grown under farm conditions; (3) poorly graded and poorly packed. The mill's interest in the quality of American wools. Competition of sheep-raising with other types of agriculture. Effects of de-

velopment of farming on "territory wool" growing. The importance of better methods of wool-growing and packing. Effects upon the wool supply of rising prices of meat.

CHAPTER IV

The Wool Merchant 58

The diverse sources of wool. The work of the wool merchant. Present methods of handling wool. The work of the wool buyer. The functions of the wool merchant. Attempts to better the methods of the trade. Warehouses and auctions. The New York Wool Exchange. The Boston Wool Warehouse. The effect of improved methods in wool growing and wool-packing upon the work of the wool merchant.

CHAPTER V

Technical Processes of the Woolen and Worsted Industries 75

Commercial value of textiles dependent partly on structure of the fabrics and partly on the element of design. The consequent problems of the manufacturer. Relative importance of the two in staple and novelty products. Effect of relative importance upon problems of production. The main steps in woolen manufacture. Foreign and domestic sources for machinery. The main steps in worsted manufacture. The element of time in mill equipment. Labor problems — skilled, unskilled, and partly skilled labor. Imperfections, repairs, seconds. The relative efficiency of American and European labor.

CHAPTER VI

Interaction Between Mill and Selling Problems 97

Problems of production. Problems of design. Change in character of product caused by change in demand. Consequent shift in the emphasis of production, involving new problems in administration and policy. Changed weights and widths of fabrics introduced by changes in demand. Entire change in product often brought about by fashion variations. Staples — emphasis on volume. Novelties — emphasis on style authority. Effects of two types of production. Effect on localization. Effect on scale of operation. Effect on specialization. American competition with European mills.

CHAPTER VII

THE ORGANIZATION AND METHODS OF THE SELLING HOUSE 109

Historical development of selling houses — Almy & Brown, B. C. Ward & Co., A. & A. Lawrence, Mason & Lawrence. The present-day selling house. *Banking Services:* (1) Indorsement of mill paper. (2) Guarantee of accounts. (3) Direct advances of money. *Selling Services:* (1) Designing. (2) Selling. (3) Collecting. Wm. Whitman Co. Inc. The American Woolen Company's sales department. Selling agents and commission houses. Wm. Iselin & Co., and its annexes. Other groups of allied concerns.

CHAPTER VIII

IMPORTED FABRICS 128

Imported fabrics in competition with products of American mills. The sources of woolen and worsted fabrics imported into the United States. American woolen and worsted industries not indigenous. The character of the imported fabrics. Imported fabrics for use by the large cutters. Some effects of the Simmons-Underwood tariff law. Comparison with effects of Wilson law. The organization of the importing trade. Some commercial effects of the tariff on woolen manufactures. The importer's relations with the tailoring trade. The common prejudice in favor of imported fabrics. Direct importation by large retailers. Imported fabrics in competition with domestic products.

CHAPTER IX

THE PLACE OF THE DRY GOODS JOBBING TRADE IN THE DISTRIBUTION OF WOOL TEXTILES 140

The work and methods of the dry goods wholesaler. Some important steps in the history of the American dry-goods jobbing trade. Eastern jobbers. Western jobbers. Historical development. Effect of direct buying on wholesale dry-goods business. Effect of ready-to-wear trade on dry-goods wholesaling. Specialty jobbers. The work and profits of the general jobber. Local jobbers. Catalogue jobbers. Recent changes in methods of jobbing dry goods.

CHAPTER X

THE MARKETING OF WOMEN'S PIECE GOODS . . . 153

The most complicated part of the woolen cloth trade. In a state of disorganization. The over-the-counter outlet. The breakdown of the "regular" system of distribution. The changes in the wholesale trade. The growth of department stores. The book houses. Mail order retailers. The ladies' tailor trade. The growth of the cutting trades. The cutters' methods of purchase. Direct sale to retailers. The increased risks of piece goods selling. The risks from contract sale.

CHAPTER XI

STYLES AS A FACTOR IN THE MARKETING OF WOMEN'S PIECE GOODS 164

1. The Setting and Adoption of Styles

The work and methods of the couturier. The style calendar. The sources of style motifs. The serious side of the designer's work. The adoption of a fashion and how it is brought about. Transplanting a fashion to the United States. Displays in the United States by Paris couturiers. Style reporters. Mill stylers. The dress-goods manufacturer and his style problems.

CHAPTER XII

STYLES AS A FACTOR IN THE MARKETING OF WOMEN'S PIECE GOODS 178

2. Styles and the Manufacture of Cloth

The "openings" of the American seasons. The mill "openings." The cutter's "first showings." The department store "openings." The calendar of fabric distribution. Direct effects of the cloth-maker's work. Determination of kind and quantity of material. Indirect effects of exaggerated style influences. Fear of bad forecasts. Danger of style shifts. Hand-to-mouth buying. The demoralizing effect of delayed orders in the early season and overtime work in the late season. The effect on quality of goods. Possible remedies for existing troubles.

CHAPTER XIII

The Ready-to-Wear Clothing Industry as It has Affected Men's Piece Goods 192

The tailor trade and the cutting industry. Growth of men's clothing manufacturing. The development of the factory type of organization. A city industry. Concentration in a few cities. Specialization by cities. The style problem in the men's wear trade. The cloth-buying methods of the cutters. The selling methods of the cutters. The repudiation problem as it affects the cloth mill. Brands in the cutting industry. Trade-marked clothing. The buying and selling problems of the tailor trade. The cloth wholesalers. Trade-marked fabrics.

CHAPTER XIV

Ready-to-Wear Clothing as a Factor in the Marketing of Women's Piece Goods 212

The growth of the women's ready-to-wear clothing industry. Reasons for lateness of this development as compared with the growth of the men's clothing industry. Inter-dependence of this development with that of department stores. Concentration of industry in New York City. The small size of typical cloak and suit cutter. Cost as a factor in the marketing problems of the cutter. Cost of cloth as a factor in the production of women's garments. Cloth-purchasing methods. Selling methods of the cutters. The large retailers and the small cutters. The assumption of the styling function by the retailers. Some effects of increased ready-to-wear business upon mill's selling problems. Concentrated sales. Exaggerated style risk. Hand-to-mouth buying.

CHAPTER XV

Department Stores and the Marketing of Women's Piece Goods 224

Sales of woolen cloth by department stores. Estimated volume of department store business. Increased ready-to-wear business of department stores. Stock plans. Seasonal calendars. Development of sources. How the stock plan strengthens the retailer's position. The seasonal calendar and its effects. The power of the large-scale retailer in developing sources. Styling by depart-

ment stores. The changeable character of department store sources. The possibilities of the specialty shop. Some effects of these buying methods on the mill's buying problems.

CHAPTER XVI

CONCLUSION 237

The European War and the American woolen and worsted industries. Ultimate effects. Immediate effects. Military desirability of economic independence shown in (1) manufacturing woolens and worsteds; (2) wool-growing; (3) supplementary industries; (4) styles and fashions. Merino wool-growing a frontier industry. Cross-bred wool a farm type of product. Woolen and worsted manufacturing an urban industry. Wool-growing not sufficient to keep pace with manufacturing. More and better domestic wool production necessary. Measures already adopted. Other changes indicated. The manufacturing industries. Concerted and individual efforts suggested as part of program for meeting new conditions.

THE WOOL INDUSTRY

CHAPTER I

THE WOOLEN AND WORSTED INDUSTRIES

THE essential difference between woolens and worsteds lies in the fact that, in the manufacture of worsteds, the fibres are combed before spinning. The combing process takes out the short fibres (noils) and leaves the long fibres parallel, when they are sent, in the form of "tops," to the spinning room. In the manufacture of woolen yarns, on the other hand, the fibres are merely "carded," and the "roving" which is sent to the spinning department is a frail strand made up of fibres of varying length which are interlaced in every direction. While this is the essential difference between woolens and worsteds, it is not the only one. This combing process in the worsted industry involves so many special problems in respect to raw materials, production methods, and character of the product, that the two industries are quite distinct.[1]

While the two products, woolens and worsteds, are distinct and the industries which produce them are separate, the idea should not be gathered that the two industries are always operated separately. Much of the machinery is interchangeable with slight modifications, and many mills make both types of product. Furthermore, woolen and worsted yarns are often combined in the same fabric.[2]

[1] Cf. *infra*, ch. VI.

[2] "When finished and ready for market, worsted fabrics are usually lighter and finer than woolen. Most of the softer and lighter materials for women's dress, the 'stuffs,' are made in whole or in part of worsted,

The woolen manufacturing industry has been conducted on a factory basis in this country since the latter part of the eighteenth century. The worsted industry, on the other hand, did not become important until the middle of the nineteenth century. But the new industry has outrun the old, and in 1909 the value of the product of American worsted mills was nearly three times that of the woolen mills.

It is the purpose of this introductory chapter to trace some of the main steps in the growth of these two industries, one of which dates back to the early stages of American industrial history, while the other is barely half a century old.

Historical Sketch of the Woolen Industry

The history of the American woolen industry may be divided into four main periods:

The first is the period of early growth of the factory type of industry. The preparation, spinning, and weaving of wool had been carried on as household occupations almost from the beginning of the colonial period. The transition to a factory basis was gradual, and at first discouraging. Fulling was undertaken in "mills" very early wherever water power was available. As fulling is a finishing, rather than a producing process, however, it may be said that the American woolen industry as a factory industry began with the undertaking of power carding. Many of the early "factories," or woolen mills, were as a matter of fact

more often in part than in whole. Silk or cotton yarns are the usual accompaniments. Other typical worsted fabrics are the fine napless cloth of which men's dress suits are now made, the smooth fancy 'trouserings,' and so forth. Among heavier worsteds are some of the serges and other plain or fancy 'coatings.' But here the boundary line between woolen and worsted fabrics is blurred by the now not uncommon practice of using both classes of yarn in one piece of cloth. Typical woolens are the old fine broadcloths, uniform cloths, boxcloths and the like; pilot cloths and the stout materials of which winter overcoats are made; flannels, blankets and tweeds." J. H. Clapham, *The Woollen and Worsted Industries*, p. 3.

merely shops in which carding and perhaps fulling was undertaken at a stipulated rate payable in kind. Spinning and weaving were done in the homes for several years after such factories had become common. The factory type of industry may be said to have had its real origin in the work of the Scholfields (John, Arthur, and later James, and their descendants) first in Byfield, Massachusetts, and later at other New England points.[1] By about 1810 the factory type of mill was a really important feature of American woolen goods production, although the household industry remained conspicuous until several years later.

The second period is characterized by a general spread of the factory type of industry during which time the characteristic mill was a completely integrated, small mill operated by water power. The principal products were plain, staple fabrics.

The third period includes the Civil War and the years immediately thereafter when the war market dominated the growth of the industry. This period shows not only a great increase in the number of mills, but also a great diversification of products.

The fourth period is one of centralization and decline, mainly characterized by the closing of hundreds of small mills, the development of medium-sized and large mills, and the general giving way of woolen fabrics to worsteds as the popular cloths for wearing apparel.

These four periods are, of course, arbitrary, but they help to summarize some of the main features in the development of the American woolen industry.[2]

The Hartford Woolen Manufactory (1788) of Hartford, Connecticut, although perhaps not the earliest

[1] Royal C. Taft, *Notes on the Introduction of the Woolen Manufacture.*

[2] S. N. D. North prepared for the Eleventh Census (vol. 6, Manufactures, pt. 3, pp. 11–71) a history of the first century of machine manufacture of wool in this country. This will be found also in the *Bulletin of the National Association of Wool Manufacturers*, vol. 24, p. 330 et seq. and vol. 25, p. 40 et seq.

American woolen mill,[1] is the earliest concerning the equipment for which there is authentic descriptive material.[2] This equipment included "two carding engines working by water"; otherwise the equipment apparently was operated by hand.

Up to 1819 the growth of the industry in this country was slow. Bagnall gives an account of thirteen woolen mills established between 1777 and 1806, ten of which were in New England.[3]

All of these attempts apparently were sporadic and local, and most of them were on a very small scale. The greatest progress toward the development of a real woolen industry was the result of the work of the Scholfields. Between 1794 and 1814, these brothers established nine factories in various parts of New England and successfully introduced a number of imitations of English machines.

The restrictions placed on merchant trade with Europe by the Embargo, the Non-intercourse Law and the War of 1812 (1807–1815) forced many New England business men to turn from shipping and trading to manufacturing. The manufacture of woolens was conspicuous among the industries attempted, and during this period the industry grew substantially. It is estimated that the value of woolen goods produced in American factories increased from 4 million dollars in 1810 to 19 million dollars in 1815.[4]

Such factories as were in operation at the close of the War of 1812–1815 found themselves unable to compete with the flood of British goods which were then sent over, and the tariff of 1816 which amounted

[1] See description of the "American Manufactory" (1775), Philadelphia, and the enterprise of Samuel Wetherill, Jr. (1775), Philadelphia, W. R. Bagnall, *The Textile Industries of the United States*, pp. 70–72.

[2] *Op. cit.*, p. 107.

[3] *Op. cit.*, pp. 72, 104, 194, 202, 227, 233, 247, 257, 280, 288, 306, 340, 423.

[4] *Bulletin of the National Association of Wool Manufacturers*, vol. II, p. 486.

to 25 per cent on woolen goods (15 per cent on raw wool) did not offer much protective encouragement to renew the unequal struggle between the poorly equipped and inadequately manned industry in America, on the one side, and the well equipped and skilfully manned industry of England, on the other.

After the crisis of 1819 the industry revived [1] and between that time and 1828 it made rapid progress. Power was applied to the operation of looms in the United States during this period. The Hazards of Providence were among the most progressive manufacturers of that time. They introduced power spinning into their mills about 1814, and power looms for making webbing about the same time, and for making cloth about 1828.[2] Indeed, it is declared that this advance in the operation of woolen looms took place here before it did in England.[3] The industry was well established on a factory basis in 1828, when for the first time substantial tariff protection was granted to it.[4]

The main features of the wool and woolen schedules of the Tariff Act of 1828 were a general duty on wool of 30 per cent ad valorem, except for that valued at less than ten cents per pound which paid 15 per cent ad valorem. The duty on woolen goods was put at 40 per cent for the first year on minimum valuation of 50c, $1.00, $2.50 and $4.00. After 1829 the duty was 45 per cent ad valorem on the same valuations. From this

[1] F. W. Taussig, *Tariff History of the United States*, 6th ed., p. 41.

[2] Bagnall, *The Textile Industries of the United States*, pp. 290 and 293.

[3] *American State Papers*, Finance V, p. 824. Testimony given by woolen manufacturers before a committee of the House of Representatives on Manufactures. See also Royal C. Taft, *Notes on the Introduction of the Woolen Manufacture into the United States*, pp. 39, 40; and J. L. Bishop, *History of American Manufactures*, II., p. 317.

[4] An excellent account of the development of the wool manufacture down to about 1830 will be found in the thesis by Dr. Arthur Harrison Cole entitled "History of the Wool Manufacture in the United States to the Establishment of the Factory System." This thesis is now in the Harvard College Library, but no doubt it will be published in part or as a whole.

time on, the industry developed rapidly but with evident conservatism up to about the time of the Civil War.

The characteristic mill of these years was the small plant, fully integrated. It had scouring, carding, spinning and weaving equipment and produced plain woolens. In the early part of the period, the products were mainly broadcloths, while in later years cassimeres and similar fabrics became more prominent. Most of these mills were located so as to make use of small waterpowers. New England, the Middle States and even the Middle West, were dotted with such mills when the Civil War began. The census of 1860 reports 1260 woolen mills in operation in 1859 with a product valued at $61,800,000.

The Civil War created an enormous demand for blankets and "army cloth," and to the establishment of mills to meet this demand more than to any other one cause was due the increase in the woolen industry in the next decade. The census of 1870 reported 2891 woolen mills in operation in 1869, producing over $155,000,000 worth of fabrics. Since that time the census figures show a decrease each decade in the number of plants, and since 1879 a decrease in each census in the value of output, except for the census of 1904, when a shift of fashions temporarily gave a new impetus to woolen manufacturing.[1]

[1] The following figures are among those quoted from the census in the *Tariff Board Report*, p. 226, covering the woolen industry:

	1909	1904	1899	1889	1879	1869	1859
No. of establishments....	587	792	1035	1311	1990	2891	1260
Capital (millions)....	$120.3	$140.3	$124.3	$130.9	$96	$98.8	$30.8
Spindles (thousands)..	1,663	2,129	1,906	1,815	1,756	1,845	*
Looms (numbers)...	27,262	32,957	34,881	39,118	35,634	34,183	*
Value of materials (millions)	$65.6	$87.8	$71	$82.2	$100.8	$96.4	$36.5
Value of product (millions).	$107.1	$142.1	$118.4	$133.5	$160.6	$155.5	$61.8

* Not reported.

Within recent years (1880–1910) the number of small, country woolen mills has greatly diminished and the industry has become centered in a very few places. Seven states in 1909 had over 60 per cent of all the establishments reported, and these produced over 81 per cent of the total product of woolen mills for the country. Massachusetts, in 94 mills, produced nearly one third of the country's product value. The concentration within a few cities has not progressed quite as far as it has in the worsted industry, but Lawrence, Mass., Philadelphia, Pa., and Providence, R. I., are the dominant woolen manufacturing cities.[1]

During practically all of this time woolen cloth has been protected by the customs tariff. With the exception of the three years under the Wilson Law (1894–1897) this protection was in the form of a combination of ad valorem and compensating duties from 1861 until 1913.[2]

Historical Sketch of the Worsted Industry

The worsted industry on a factory basis did not develop until after the various new combing machines invented in the middle of the nineteenth century had been made commercially available.

[1] The following census figures taken from those quoted in the *Tariff Board Report*, p. 227, show some features of the concentration by states in the census year 1909:

	No. of establishments	Cost of materials (millions)	Product value (millions)
United States	587	$65.6	$107.1
Connecticut	36	5.1	8.4
Maine	55	7.6	12.8
Massachusetts	94	19.8	32.2
New Hampshire	33	4.7	7.7
New York	30	2.9	4.9
Pennsylvania	104	10.2	16.
Rhode Island	21	2.9	4.7
All others	214	12.1	20.1

[2] Prof. F. W. Taussig in his *Some Aspects of the Tariff Question* has on page 325 the following footnote summing up the principal changes in the compensating system:

"The development of the system is shown by the following figures,

The most important of these improved combs were the Noble comb, the type most commonly used in England and in this country, the Lister or nip-comb, best suited to long wools, the Holden or square-motion comb, and the Heilmann comb, which is used on the European continent more than elsewhere.[1] Before the development of these machines, worsted yarns, even when made for factory weaving, in this country had been combed by hand. The combing machines which are now in common use were all invented within ten years (1842–1853). After they were introduced the worsted industry grew with great rapidity. The real growth of this industry, it will be observed, does not go back of the fourth period mentioned in connection with the woolen industry, namely, the period of centralization and decline.[2]

The chief characteristics of the worsted industry as it is at present constituted are: (1) the relatively

which state the duties on 'Woolen Cloths,' the typical class of goods and the one still most important in Schedule K.

Year	Duty on Wool per pound	Duty on Woolen Cloth: Compensating (specific) per pound	Duty on Woolen Cloth: Protective ad valorem
1861	3c	12c	25%
1864	6c	24c	40%
1867	12c	50c	35%
1883	10c	Costing up to 80c per lb. 35c	35%
		" over 80c " 35c	40%
1890	11c	Costing up to 30c per lb. 33c	40%
		" 30 to 40c " 38½c	40%
		" over 40c " 44c	50%
1894	Free	No compensating duty	Costing up to 50c 40%
			" over 50c 50%
1897	11c	Costing up to 40c per lb. 33c	50%
		" 40 to 70c " 44c	50%
		" over 70c " 44c	55%
1909	11c	Same duties as in 1897	Same duties as 1897
1913	Free	No compensating duty	35%

"The wool duty is here stated approximately; for details see the table given above, p. 297. On the splitting of the compensating duty which begins in 1883 and is maintained until 1913, see p. 330 below."

[1] See J. H. Clapham, *The Woollen and Worsted Industries*, pp. 40–46.

[2] The following figures from among those quoted from the census

large size of plants,[1] (2) the high degree of specialization in process,[2] and (3) the high degree of centralization in a few states, and more specifically, in the cities of Lawrence, Mass., Providence, R. I., and Philadelphia, Pa. These three cities together produce the greater part of the country's output.[3]

in the *Tariff Board Report*, p. 220, show the rapid growth of the worsted manufacture:

	1909	1904	1899	1889	1879	1869	1859
No. of establishments	324	226	186	143	76	102	3
Capital (millions)	$295	$162.4	$132.1	$68	$20.3	$10	$3.2
Combing machines (number)	1,925	1,312	1,194	673	288	161	*
Spindles (thousands)	2,624	1,618	1,371	755	240	200	*
Looms (number)	45,270	30,910	26,372	19,095	14,411	6,128	*
Value of materials (millions)	$207.7	$109.6	$77	$50.7	$22	$14.3	$2.4
Value of product (millions)	$312.6	$165.7	$120.3	$79.1	$33.5	$22	$3.7

* Not reported.

[1] The average value of product per mill in 1909 was $646,851, compared with $182,485 for the woolen industry.

[2] "In the worsted industry there are a large number of mills which weave only; there are others which comb and spin, and a number which buy tops and do nothing but spin, and a very few which comb only. A comparatively few mills carry the raw material through every process from raw wool to finished cloth. These are some of the largest mills in the world and turn out a large proportion of the total output of the industry. In these mills, however, there is a noticeable specializing in processes, for scouring, combing, spinning, weaving, and finishing are performed at least in separate departments, and often in separate and distinct plants. The tendency toward specialization is on the increase, but the industry in this country has not yet reached the stage in this respect that it has reached abroad, where the subdivision of processes is carried much further." See *Tariff Board Report*, p. 220.

[3] The following census figures for 1909 taken from those quoted in the *Tariff Board Report*, p. 221, show the centralization by states.

	No. of establishments	Cost of materials (millions)	Product value (millions)
United States	324	$207.7	$312.6
Connecticut	17	7.1	10.1
Massachusetts	74	66.	106.
New Jersey	21	18.3	29.6
New York	15	8.2	12.7
Pennsylvania	99	43.3	59.4
Rhode Island	67	48.1	69.8
All others	31	16.5	24.6

The figures which are contained in the census do not give a detailed account of the distribution of the present woolen and worsted mills by the character of their products. In an appendix to this book will be found a table in which an attempt has been made to show this roughly by listing the number of mills reported in a recent trade directory under some of the most important lines of product. For example, in men's wear there are shown to be 258 mills making woolens and 198 making worsteds. In the production of dress-goods (woolen and worsted) there are listed 214 mills, cloakings 85, blankets (wool) 126, and flannel 92. The blanket and flannel mills are widely scattered, but the mills making dress-goods and men's wear are largely concentrated in Massachusetts, Pennsylvania, and Rhode Island, with numerous smaller plants in Connecticut and Maine. New Jersey shows some large mills making men's worsteds and women's dress-goods, and New York is conspicuous in the list for men's woolens and women's dress-goods.

Commercial Problems in Relation to Historical Development

This summary of a few important features of the development and present status of the woolen and the worsted industries indicates the task involved in an attempt to examine the economic meaning of some of the commercial problems of these two industries. Woolen goods production was once firmly established as an industry whose typical plants were small-scale, integrated mills, widely scattered. Because this is no longer true, it becomes an important part of our study to look into certain questions of a historical nature: What, for example, are some of the commercial influences which have contributed to the change of form of this industry and its general decline in value of product? Why, at the same time, has the production of

worsted fabrics shown such enormous and rapid growth? Why have both industries shown such strong tendency toward geographic concentration? What commercial factors lie back of some of their chief present-day characteristics?

Such questions as these may be answered satisfactorily in a general way by examining the effects of some of the general influences which have affected American industrial conditions. Although such factors as the tariff, labor problems, and the perfection of power machinery, have all had important effects, I believe that emphasis should be laid primarily on the influence of buying and selling problems and methods.

For example, so revolutionary a change in marketing methods as is represented by the growth of the ready-to-wear clothing industry, coming between the cloth mill and the cloth consumer must evidently have had a marked effect on the development of cloth manufacturing. When, for ten thousand small tailors as the outlet for a mill's product, there is substituted one clothing factory, some change in the selling organization and methods of the mill must follow. Even the processes of manufacture themselves cannot remain unchanged. This growth of the clothing industry is only one of several changes which have taken place within a few years in the American fabric market. The development of department stores has produced effects scarcely less important. Similarly, the group of changes which have intensified the influence of fashion have substantially modified conditions in the woolen and worsted industries.

At the same time there have been changes in factory problems which have had direct commercial effects, and the production and sale of raw wool has assumed entirely new aspects, which are due partly to new conditions in the mills, and partly to new conditions in wool production.

Unfortunately there is little available material of a historical character covering this side of our industrial development. It is a question whether adequate material for a study of early periods ever did exist. Certainly it would now be difficult to find data for anything prior to the middle of the nineteenth century. But for later periods, the prospect is much better. There are numerous concerns still in existence, or only recently passed out of existence, whose records furnish valuable material.

The meagreness of the attention which has been given to this side of economic history will be appreciated by anyone familiar with the existing studies of American industrial growth. For instance, W. R. Bagnall in his *Textile Industries of the United States*, tells with some detail of the establishment of thirteen woolen mills in this country between 1777 and 1806. In most of his accounts of these mills he apparently assumes that if the fabrics could be made they could be sold, although in one or two cases, he recounts failure of a mill attributable to inability to compete with British products. Apparently, the factory system of production, even in the days of restricted local markets, was unable to adjust itself accurately to the existing sales mechanism. It seems probable that this lack of adjustment might be a considerable factor (quite aside from comparative cost of production) in accounting for the inability of certain American mills to meet British competition.

In one instance Bagnall, quoting Henry Wansey's description of the Hartford Woolen Manufactory, shows that Elisha Colt, "a store-keeper, or woolen draper," in 1794 had direction of the plant. Colt, it appears, displayed to his visitor at his store "twenty or thirty pieces of cassimeres, broadcloths, elastics, and narrow cloths of the Hartford manufacture." He could sell them, we are told, "at about the same price as our English goods." When the freight, insurance, merchant profits and the "seven and a half per cent

duty" on the English goods are taken into account, the question arises how the costs of the factory were reckoned. This paragraph assumes additional interest when taken in connection with two others. One contains the statement that for two years previously the stock of cloth accumulated at the mill until each fall it had to be auctioned off. The other shows that the mill paid a fifty per cent dividend in 1794, and, the period of subscription guarantee having expired, it was sold out at auction by Colt in 1795 (including 140 pieces of finished goods and 4000 pounds of wool). These statements suggest some of the difficulties the mill apparently had with what, in modern times, have come to be called "selling problems." [1]

After the successful introduction of power spinning, buying and selling problems apparently assumed a new form very rapidly. The selling, or commission house, closely allied with the manufacturing concern but confining its attention to selling the product, was a commercial device which was adopted by cotton mills very soon after power spinning had demonstrated its efficacy. By 1840 this form of connection with a selling house appears to have very largely superseded the agency method of disposing of products which previously was generally prevalent.

Power spinning and weaving did not enter the woolen industry until after the selling house had well established itself as a feature of the cotton industry and trade.[2] It was a simple matter, therefore, for the woolen industry to make use of this commercial device as the woolen mills in the eastern part of the country became larger and more numerous.[3]

[1] Bagnall, *Textile Industries of the United States*, pp. 106–108.

[2] *Infra*, ch. VII.

[3] For historical discussion of methods of selling cotton cloth, see M. T. Copeland, *The Cotton Manufacturing Industry of the United States*, ch. xi. Dr. Cole's thesis, referred to in Note 4, page 5, contains some valuable material on the development of marketing methods for wool between 1790 and 1830.

The organization of the wholesale and jobbing trade in woolen and worsted goods always had its main features determined by the cloth importing business, until well after the Civil War period. Since then, the new conditions in the consuming markets which we shall examine in some detail, have produced conditions in the distribution of cloth after it leaves the selling house which may well be characterized as chaotic.

Most of this study is devoted to a discussion of these market conditions and the interaction between them and the problems of the mill. For example, such new developments as the enlarged variety of products, the wider radius of sale, and the increased importance of "quantity" purchases, have produced new problems in volume and speed of production and in mill organization. To the attempts at solution of these problems are largely due the geographic concentration of many of the mills about a few centers, the high degree of specialization which has taken place in the worsted industry and the large scale upon which some of the worsted mills are operated. These mill problems in turn have modified the organization of the cloth market even as they have been modified by it.

But the commercial problems of these industries are not all concerned with cloth-selling. The problems of raw material buying also have been changed to meet new conditions. Wool-purchasing methods are being materially modified from time to time. Domestic wools come from sources which change constantly and they enter the market under conditions which never existed until recent years. Imported wools also are marketed by methods which reflect new conditions in the world's wool-growing industry.

Changes in the volume of production are shown with acceptable accuracy by the figures for the number of mills and the value of output. Changes in geographic

location of markets and production are reflected by the census figures for population and for location of industries. But alterations in the nature of markets, and in the character of marketing problems are more difficult to present clearly. Many of these changes in the nature of markets and marketing methods which have occurred in the American woolen and worsted industries during the past thirty years are quite as important as the mere increase in size or the geographic shiftings. But they never have received adequate recognition in historical or economic studies. It is my purpose to give particular attention to these changes, and to show, if possible, some of the ways in which they have affected the development of these industries.

CHAPTER II

THE IMPORTED WOOL SUPPLY

THE commercial activities of the woolen and worsted industries obviously are concerned with the purchase of raw materials as well as with selling cloth.

In considering the group of problems centering about raw materials we find that the vagaries of consumption and the modification of the mechanism for distributing cloth have a marked influence on the character of the raw material trade and the methods of conducting it. This influence, however, is modified substantially by the conditions surrounding wool-growing both in the United States and in the other wool-producing countries, and by the conditions of mill operation. In other words we find the task of adjusting the raw material purchases to the problem of cloth selling to be the dominating, but by no means the only factor in the purchasing of raw materials for these industries.

Of the total quantity of raw materials used in the American woolen and worsted industries in the census year 1910, 67.69 per cent was new wool. This was a distinct increase over the percentage in former census years.

The following table[1] shows the quantity of the chief raw materials used in wool manufactories from 1869-1909:

[1] *Tariff Board Report*, p. 97.

CHIEF RAW MATERIALS USED IN WOOL MANUFACTORIES.
(In Millions of Pounds).

Census of	Raw wool in condition purchased	Animal hair, hair yarn, and hair noils	Cotton and cotton yarn	Rags and shoddy	Wool waste and noils	Tops	Woolen yarn and merino yarn	Worsted yarn
1869	219	..	42	19	..	..	12	1
1879	296	8	92	52	..	..	14	9
1889	372	27	159	61	23	..	31	28
1899	412	36	279	75	26	5	47	40
1904	500	44	309	124	35	10	49	51
1909	559	39	384	74	43	20	39	80

In the woolen goods and worsted goods branches of the industry, the total value of raw materials used in 1909 was 273 million dollars, of which 136 million represented new wool, 85 million dollars worth of this being domestic, and 51 million dollars worth, imported wool.

The following table condensed from census figures gives some idea of the quantity and value of the principal raw materials used in these two branches of the woolen industries:

RAW MATERIALS USED IN WOOLEN GOODS AND WORSTED GOODS BRANCHES OF THE WOOLEN INDUSTRY, 1909[1]

	Million pounds	Value million dollars
Total cost		$273.4
Wool in condition purchased	474.7	136.6
Domestic	310.6	85.
Foreign	164.	51.6
Equivalent in scoured condition	290.7	.....
Mohair, camel, alpaca, and vicuna hair	7.8	2.3
Other hair	17.3	.9
Cotton	20.	2.5
Tailors' clippings	40.4	2.8
Shoddy, Mungo, etc	21.4	3.
Waste	26.4	7.5
Tops purchased	20.8	14.6
Yarns, woolen	.9	.5
Worsted	59.6	56.
Merino	1.9	.3
Cotton	39.1	10.4
Silk	.2	1.1
Other	1.	.04
Chemicals	....	8.8
All other	....	25.4

[1] Census 1910, vol. x, p. 103.

Each of the principal types of raw material has its own separately organized trade. The yarn trade, for example, is highly specialized, and even the trade in recovered wools, shoddy, mungo, extract, flocks, etc., is in a large measure handled by concerns doing this business exclusively.

The census of 1910 reports 88 establishments which produced shoddy with a total value of $7,400,000.[1] This represents a decrease both in the number of plants and in the value of the output as compared with the census of 1904–05. The shoddy industry is more important in Great Britain than in any of the other countries producing woolen goods extensively, but the industry there shows no substantial net gain for the past fifty years, while there has been an actual decrease since 1895 when the production amounted to over 84,000,000 pounds. At the present time it is not much over 60,000,000 pounds a year.

In passing it might be said that some of the recovered wools have a perfectly legitimate place in the production of woolen and worsted fabrics. These wools possess most of the properties of new wool except its tensile strength. They have the warmth, the ability to hold color, and many of the spinning properties of new wool. They make possible the production of fabrics which have all the necessary qualities for fancy piece goods except their ability to withstand long and continuous wear. In view of the fact that fashions now change so rapidly, fabrics produced from this type of raw material may be expected considerably to outlive the fashion in which they were made up. This, of course, means that by the introduction of this cheaper raw material, it is possible to put style fabrics within the reach of many persons who otherwise would be obliged to forego the pleasure of following the fashions.

[1] *United States Census*, 1910, vol. x, p. 132.

Several years ago a writer of recognized standing in the wool trade made the following clear statement of the place of recovered wools as a raw material:

> There are so many grades or qualities of shoddy, sold for prices ranging from seven to twenty-five cents a pound, that clothing could be marked absolutely according to the requirements of the law and yet the greatest deception could be practiced on the unsuspecting purchaser. Suppose one suit were marked thus: Twenty-five per cent shoddy and seventy-five per cent new wool; another fifty per cent shoddy and fifty per cent new wool. Which one would an ordinary buyer regard as the better? Naturally he would choose the former and he might make a grievous mistake, for it might be made of a very poor quality of shoddy and a very low grade of wool; whereas the latter might be made of a high grade of shoddy and the best grade of wool. In that case, and numerous other such examples can be cited, the tagging, instead of assisting the purchaser, would lure him into an unfortunate purchase. The seller would be complying with the law to the letter, and would be liable to none of its penalties.[1]

With this brief mention of some of the uses of shoddy and the importance of the shoddy trade we shall be obliged to dismiss from our consideration this and the other subsidiary raw materials employed in the woolen and worsted industries, and confine our attention to some features of the trade in new wools from the viewpoint of the manufacturer of woolens and worsteds. We shall examine first the trade in imported wools, and second the trade in domestic wools.

Chief Sources of the World's Wool Supply

Australia is the chief source of the world's wool supply. The estimated number of sheep in Australia in 1910 was approximately 100 million, of which about one-half were in the state of New South Wales.[2]

[1] John Bruce McPherson, in the *Bulletin of the National Association of Wool Manufacturers*, March 1904, p. 27.

[2] *Tariff Board Report*, p. 305.

Australian ranges have not the capacity for carrying as many sheep per acre as do the ranges of the southern portion of the Argentine Republic, but Australian conditions for wool growing are in some respects excellent. The winters are neither long nor cold, and there are comparatively large areas suitable for ranging which are not well adapted to other types of agriculture. The chief obstacle to successful sheep raising is the danger of occasional drouth.

Australian sheep are partly of the merino and partly of the mutton type, with the merino predominant. Probably 80 per cent of the sheep in Australia have a large percentage of merino blood, and fully 75 per cent of the wool shipped out of the country is classed as merino wool.[1]

Near the coast, where freezing works are easy of access, the mutton breeds have in recent years partially supplanted the merino type of animal. With the increase of the frozen mutton trade it seems probable that the raising of this type of sheep will become an even more important feature of Australian wool growing.

The continent of South America is estimated to have approximately the same number of sheep as the continent of Australia, about 100 million. Of these, estimates place 67 million in the Argentine Republic, and about 26 million in Uruguay. The Argentine sheep are about equally divided between the province of Buenos Ayres and the remainder of the Republic. The flocks to the south of Buenos Ayres, however, are much more numerous and extensive than those to the north.

In the republic of Uruguay the same rich pasturage which is the basis of the cattle ranging industry, supports sheep raising. In both of these republics there has, in recent years, been a substantial increase in

[1] *Tariff Board Report*, p. 305.

mutton breeds as a result of the development of freezing works. This is true particularly of those portions of the republics lying near the coast. Thus far it has not been profitable to ship sheep any great distance. Back from the coast, therefore, the conditions are still those which were characteristic of the South American sheep raising industry as a whole until very recently, namely, the sheep are raised primarily for the wool, and their value as mutton is incidental.[1]

In South Africa the estimated number of sheep is about 30 million, of which approximately two-thirds are in the Cape Province. In a great part of these wool-growing areas, range conditions prevail, and the sheep are of merino blood. The raising of mutton sheep, however, has been undertaken here also in recent years. The land available for sheep raising is typically rough and arid with a low carrying capacity. Most of it now is taken up, although it does not appear to be stocked with sheep to its full capacity.[2]

New Zealand is the fourth and only remaining important source for wools suitable for cloth manufacture. The estimated number of sheep is about 24 million head, most of which are of the mutton breeds. There does not seem to be much opportunity for a great expansion of sheep raising in New Zealand, since most of the available land is now occupied.[3]

In Australia and New Zealand the paddock system of sheep raising generally prevails, although in the South Island of New Zealand some of the sheep are ranged. In South America and South Africa, on the other hand, ranging is the common method of sheep culture.

If we leave out of consideration the carpet wools, or the coarse wools and hairs brought from the Near

[1] *Tariff Board Report*, p. 307.
[2] *Tariff Board Report*, p. 306.
[3] *Tariff Board Report*, p. 306.

East, and from China and Russia, we find that from the four chief sources named (Australia, New Zealand, South America and South Africa), come the principal supplies of fine wools entering into the world's trade. It is with these that most of the wools grown in the United States compete.

The wools from mutton sheep grown in the United Kingdom are the most conspicuous feature of the world's trade in combing wools,[1] but perhaps more important than this direct contribution which the British wool-growing industry makes to the world's wool supply is the influence of the spread of English mutton breeds in recent years into the fine wool-growing areas. This extension of mutton raising has resulted in an increasing quantity of the so-called "cross-bred" wools in the clips of Australia, South America, and even to a certain extent, in the clip of South Africa. In the wool-growing industry of New Zealand and of the eastern portion of the United States the cross-bred types of wool have very largely superseded the old merino stock, and even in portions of the territory section of the United States, the same process now seems to be going on.

The question of comparative cost of wool production in different countries is a most important one for the American wool industry. But this question is yearly becoming more closely connected with other matters than the cost of wool growing alone. If the world's wool growing as a whole passes to a basis of cross-bred wool production, so that the costs chargeable against wool are modified by the returns from mutton, the problem of raw wool purchase will take on a form entirely different from that involved in the purchase of wools which must unaided bear all the cost of sheep raising. The following paragraphs from the *Tariff Board Report* give a summary of the result of

[1] *Tariff Board Report*, p. 443.

the investigation into the comparative costs of wool production in the world's chief sources in 1910:

> The average receipt per head in the case of the operations studied in detail by our agents in the Western States is found to be $2.56. While we can not undertake to name with equal confidence the corresponding figure for Australia, it is perfectly plain that a return of about $2.20 per head is common in that country at this time and that in South America the receipts average about $2.10 per head. The American return of $2.56, less $2.11 operating costs, leaves as the net American receipts 45 cents per head per annum. The Australian figure quoted above, less the operating costs, which have been estimated at about 95 cents, leaves as the possible net return of the more fortunately situated Australian grower $1.25 per head per annum. In South America, with an average expense of about $1.15 per head, the countries investigated indicate a return of 95 cents per head per annum.
>
> There remains, therefore, only the simple operation of subtracting from the flock expenses the receipts from other sources than wool, to reveal the fact that as against a clearly demonstrated net charge against the western American wool of from 10 to 11 cents, there is probably not more than 4 to 5 cents per pound against the South American clip; and, if the season is normal and the sheep market steady, little, if any, charge against the Australian. Indeed, well managed stations in many parts of Australia are showing at the present time a profit before any wools are sold. It is not safe to assume, however, that the more remote runs are doing so well, and there is always the possibility of paralyzing droughts.[1]

Methods of Marketing the World's Wool Supply

The methods of marketing the world's wool supply show such marked change from year to year that it is difficult to take a cross section through them at any one time.

In the marketing of Australian wools, regular auctions were introduced as early as 1835.[2] Until recent

[1] *Tariff Board Report*, pp. 349, 350.

[2] Clapham, *The Woollen and Worsted Industries*, p. 90.

years, although the Australian auctions steadily increased in importance, the great part of the wool product of Australia was sold through the London auctions. The recent rapid increase in the importance of the Australian auctions as compared with the London auctions, as an outlet for the Australian product, seems to be due to a variety of causes. One is the change in the character of the wools, which has already been mentioned. Another cause is the fact that a comparatively small portion of the Australian wools sent to London are actually employed in the English industries. This amount apparently has decreased proportionately with the increase in the popularity of worsteds. The long, coarse wools grown on the 30 million or more sheep in England form the basis for a large part of the British production of men's worsteds, while to France, Germany, Belgium, and the United States is left the greater part of the consumption of the kinds of wool which are typically Australian.[1]

The Sydney auctions are the most important of all the sales in Australia. The amount of Australian wool handled through Sydney is now approximately three-quarters as large as the amount of Australian wool sold in London. All of the other Australian states, except Western Australia, have sales of their own.

[1] "Towards the end of winter a number of well-paid foreign gentlemen arrive to buy the wool in Sydney. Towards the end of the summer they sail home again, and find out roughly what wool their principals will be wanting next season. Towards the end of winter they come back again to buy it.

"Nearly all the Sydney wool goes to foreigners. Last year [1909] it went mostly to France. France took 264,000 bales, England 245,000 and Germany 225,000, Belgium 91,000, America 27,000, and Japan 8,000. Perhaps people now alive will live to see the last name first on the list.

"The amount of wool that England buys from New South Wales has halved itself in the last ten years. As late as the Boer War, England bought 64 per cent of all the wool from Sydney and foreigners only 36. Last year [1909] England bought 28½, and foreigners 71½. The decrease has been almost yearly." — C. E. W. Bean, *On the Wool Track*, p. 270.

Those next in importance to Sydney are the two Victoria sales, at Melbourne and Geelong.[1]

While English wool merchants are still the largest buyers in all Australian sales, except that at Sydney, the portion of the wool sold at Sydney to English buyers is decreasing.[2]

The London wool auctions, in spite of the increased direct buying of Australian wools, are still the most important single center of the world's wool trade. Concerning them Clapham says:

For two generations those sales have been the centre of the international wool trade; and, though they are now to some extent losing that position, they remain one of its most important features. Very little colonial wool is disposed of by private contract in London; all, or almost all, comes under the hammer at the Wool Exchange, Coleman Street, E. C. Of the wool sold there, fully two-thirds now comes to this country "in the grease." A very small and

[1] "Because the Australian auctions are held in the time between the middle of October and the middle of January, which is their summer-time, the "seasons" are '85–'86, or '86–'87, or '87–'88, etc. In the season of '85–'86 the product of the Australian colonies was about one million one hundred and forty-one thousand bales, and of that over 68 per cent, practically 70 per cent, was sold in London and the balance in Australia. In '94–'95, when they had the greatest production they ever had in the colonies up to that time, one million nine hundred and fifty-two thousand bales, 55 per cent, were sold in London and the balance in Australia. The Australian auctions have so grown in importance that in '03–'04, when the clip fell to one million three hundred and seventy-five thousand bales, only 40 per cent was sold in London, Australia — and by Australia I mean to include Tasmania and New Zealand — handling 60 per cent of the production. In '07–'08, the season just finished, winding up in February, because of an arrangement entered into something over a year ago to distribute the Australian sales over a little longer space of time,— in '07–'08, when the clip had again recovered to nearly its high limit, only 30 per cent went to London and the balance was disposed of at home." Charles H. Harding in *Bulletin of the National Association of Wool Manufacturers*, June, 1908, p. 171.

[2] Bean, *op. cit.*, p. 273.

For a discussion of the organization of the Australian wool trade, see *Textile World-Record*, Aug. 1911, p. 67. A table showing the relation between Australian exports and sales from 1898–99 to 1914–15 will be found in the *Bulletin of the National Association of Wool Manufacturers* for January 1916, p. 57. W. Senkel, *Wollproduktion und Wollhandel*, p. 74, gives figures for Australian wool auction sales— 1880–81 to 1899–1900.

declining quantity is of the type known as "washed fleece" — wool carefully cleansed while yet on the sheep's back. The remainder is scoured wool and "slipe" or skin wool — that is, wool from the hide of the slaughtered sheep. The use of scouring is to save freight charges, especially when the bales come from a remote inland station; for the yield of pure wool from a greasy bale is not often more than 50 per cent of the weight, and may be much less. The scouring process, however, reduces the value in England. The scoured wool often gets unpleasantly felted, when compressed in the bale, and in many of the scouring establishments the work is carelessly carried out. The skin wool has naturally increased in quantity with the growth of the frozen meat trade; but the greasy wool is much the most important class, the most popular with home dealers and users.

Australasian wool has always been the staple article at the London sales. For many years, however, wool from the Cape and the Falkland Islands has been sold together with that from Australia. Of late years consignments from Punta Arenas, the River Plate, and elsewhere, have also been disposed of at these "Colonial," or "Fine Wool" sales. The sales are divided into six series — January, March, May, July, September, and November. Generally, as has been said, the Australian wool is despatched to England by the financier, who has advanced part of its value to the owner; but a certain quantity has already been sold out and out to dealers in the colonies, who put it up for re-sale in London — "speculators' wool" it is sometimes called.[1]

Charles H. Harding of Philadelphia, in an address before the Alumni Association of the Philadelphia Textile School a few years ago, gave a graphic description of the details of the operation of the London wool auctions.[2] In the course of this address Mr. Harding gave the following explanation of the importance of the London wool auction as a source for American wool purchases:

[1] J. H. Clapham, *The Woollen and Worsted Industries*, pp. 91–92. Figures showing London receipts of Australian and Cape wools and the quantities sold to foreign buyers from 1835–1900 are given in W. Senkel, *Wollproduktion und Wollhandel*, pp. 63–64.

[2] *Bulletin of the National Association of Wool Manufacturers*, June, 1908, pp. 168–177.

Another reason why Americans have gone to London and other foreign places to buy wools is that the American wool manufacturing business has always been following, more or less, in the procession headed by France and England. Our manufacturing business came from England. The men — some of them are alive yet — who have been most prominent in the history of American wool manufacture have often been Englishmen or the sons of Englishmen. Our machinery, our experts very largely, have been from England. But more important than that there was always a tendency, which up to 1876 was an almost absolute rule, that the woolen stuffs manufactured in America should be copies of something that had been made in England or on the Continent. Those of us who remember the situation that arose after the Centennial Exposition of 1876 will remember that was the first time when there was any disposition on the part of American manufacturers to do something independent of getting samples from abroad and copying for the next season the goods made in other countries. I am not sure that habit is abolished as yet.

But you can see that, as a natural result of that situation, the man with specialties to make had to find wools adapted to his purpose, and it was not a question at all with him, and it is not a question with him yet, "Shall I buy American wools to do this?" The question is what will do the thing that I want to do? To illustrate. Today, by the pressure there is for cream-whites in dress goods, the man who wants to make such goods has raised in his mind first, the question, where in the world can I find the wool for the yarn to produce that effect? If American wool will do it, well and good. I must find the thing that will make what fashion demands even if I must go to the Falkland Islands, to New Zealand, or somewhere else to get the material; otherwise while I am trying to prove to the people I ought to do it out of American wool this particular fashion will be gone, and I will have lost my opportunity. That is one of the reasons why Americans must go elsewhere to find certain wools, not merely that they may supplement the American clip, but they must find quickly the things that are adapted to the calls made upon them by certain phases of fashionable demand.

Why should we go to London, is another question and is answered by the statement that until very lately London has been the point at which the largest quantities of wool

grown in many places in the world, outside of the United States, could be found. At given times all the wools of South Africa, a little from North Africa, wools from the Australian colonies, except what may be sold at auction in Australia, from the Falkland Islands, from the extreme southern part of South America, are to be found on sale in London.

It is evident from the points thus made clear by Mr. Harding, that the colonial wool sales of London owe their importance, from the standpoint of the wool buyer, to the fact that they are the one place in the world at which large quantities of high grade wools from each of the world's chief sources are collected.

The carpet wool sales of Liverpool perform for the coarse wools used in the manufacture of carpets, coarse blankets, and rugs, very much the same service that is performed by the London sales for high grade wools. The Liverpool sales are held in six separate series each year conducted very similarly to the London sales. The wools sold, however, represent a much wider variety than is to be found in London, although the trade is particularly large in the coarse wools of China, the Near East, and Russia. Alpaca and mohair also appear conspicuously in Liverpool. Here the amount at private sale is much larger in proportion than it is in London.[1]

In London, in addition to the colonial sales, there are held also what are known as the low wool sales in which small quantities of inferior wools mostly from the near East, together with some camel's hair, cashmere, and mohair are sold at auction.[2]

Most of the wools produced in England are sold at local wool auctions in which the wool growers come into direct contact with wool merchants and the manufacturers themselves. Sales of this kind are held in such manufacturing cities as Leicester and Bradford,

[1] Clapham, *op. cit.*, p. 101.

[2] Clapham, *op. cit.*, p. 100.

as well as in the purely agricultural counties. There is also some sale by the farmers direct to the agents of spinners. This method of sale, however, is only of importance in a few places near manufacturing districts.[1]

The principal wool sales on the Continent have been at Antwerp and Roubaix, but these have played no very important part in the wool problems of the American industries.

The organization of the wool-importing trade in the United States is difficult to describe accurately because of the individual variations in methods of conducting the business. In general it may be said that most of the fine wools are imported through Boston, while a large percentage of the carpet wools enter through New York.

Of the Australian wools brought into the country, it is estimated that a little more than one half normally comes direct from Australia, and little less than one half comes via England. This is a radical change from the route followed by Australian wools until within the last few years when practically all came via England. Even at present a portion of the wools bought by American merchants in Australia is shipped to the United States by way of England, so that the amount coming in from Australia by direct shipment does not accurately represent the amount actually purchased in Australia by American buyers.

New Zealand wools still come chiefly via England. One wool merchant estimates that this proportion in ordinary years will now be at least 85 per cent of the total amount of New Zealand wool brought into the country.

The South American wools are nearly all bought by private purchase in Uruguay and the Argentine Republic, and approximately 85 per cent of those for

[1] Clapham, *op. cit.*, p. 107.

for use in the United States are shipped direct. The remaining portion of the South American wools used in this country are bought at the London sales.

Of the combing wools, known for so long in the Tariff Schedule as Class II wools, under ordinary circumstances, largely from the United Kingdom and also from South America, New Zealand and Australia. A few of the Turkish wools imported direct from Asia Minor come under this class, but most of the wools brought from that part of the world are too coarse to be ranked as Class II wools. All cross-bred wools from South America, New Zealand, and Australia having a trace of merino blood have been entered as Class I wools.

Of the carpet wools, those received from China, Russia, and the United Kingdom are practically all shipped to the United States by direct routes. Of the Turkish wools, perhaps 75 per cent come direct from Turkey, about 10 per cent are bought in the United Kingdom at the Liverpool sales, and the remainder arrive by various continental routes, some from Belgium, some from France, and a little from such other countries as Italy, Austria, Germany and Denmark. Of the British East Indian wools, about three-fourths come from England, and the rest are divided between direct shipments and shipments via the Continent, Scotland, or Canada. Most of our carpet wools come from China.

Boston is generally recognized as the second largest wool market in the world, being exceeded only by London. There are a few Boston houses which deal exclusively in imported wools, but the greater part of the importing into Boston is done on a merchant basis by the large wool dealers who handle imported wools as one department of their business. There is said to be practically no commission business in foreign wools in the Boston market.

A few of the larger mills have done some foreign buying on their own account and have imported the wools direct. This is particularly true of graded wools imported from London, Sydney, or Melbourne where they are bought in the public sales, or from Buenos Ayres and Montevideo where they are bought at private sale. This method of direct importation by mills is only open, however, to such mills as have needs large enough to bear the cost of sending out a buyer to make the purchases, and capital enough to carry the speculative risk during the time the wools are in transit.

The World's Wool Supply as a Manufacturer's Problem

Looking at the world's wool supply as a problem of the American manufacturer, there are three features which are conspicuous: (1) Any great expansion in the production of fine wools of the merino type of sheep appears to be highly improbable. Indeed, the probability of an immediate and substantial reduction is much greater.

The competition for the use of land between agriculture and sheep ranging is gradually reducing the amount of space available for range use, so that most of such fine wools as continue to be grown must be produced under paddock conditions.[1] This is true of the western United States, of portions of Australia, of the northern portion of the Argentine Republic, and of parts of South Africa. This makes it evident that no great increase in range sheep production can be expected unless by careful selection of breeds or by some other change in sheep-raising methods, the carrying capacity of the remaining land can be increased.[2]

[1] See Wright, *Wool Growing and the Tariff*, pp. 135 *et seq.*, pp. 250 and 258; also, *Tariff Board Report*, pp. 536, 571, 581.

[2] "We do not consider there will be any further material expansion in wool production, not alone in Australia but in Australasia, the annual sheep slaughterings for local consumption and export being very heavy,

(2) There is a distinct change from the range type of wool growing to the paddock and farm types, and from the merino strain to cross-bred sheep in most of the important wool-growing countries. The conditions which make the range type of sheep raising impossible do not apply with equal force to either the paddock or farm type. At the same time the general increase in the value of lands, and the consequent rise in the cost of cattle production, has strengthened the demand for mutton as a source of meat.[1]

(3) There has been an appreciable decline in the volume of the world's wool clip since 1910. The United States, New Zealand and Argentina all show substantial net reductions in production for 1913–14 compared with 1909–10, and in addition to a continued decline in these countries there was a decided falling off in Australia in the following year. The number of sheep in Australia and Tasmania decreased from 92 million in 1910 to 82 million in 1914.

which, together with possible recurrence of bad seasons, will prevent much increase in sheep numbers. It seems therefore unreasonable to expect any expansion in the wool output from Australasia." This year's shortage is estimated at 500,000 bales. . . . "It will be many years before Australia carries 124,000,000 sheep again, if indeed these numbers are ever reached." — Dalgety's *Report* for 1914, p. 116, quoted in *Bulletin of the National Association of Wool Manufacturers*, January, 1915, p. 268.

[1] "The increased tendency towards cross-breeding is extending in every state, but more particularly in the southern half of the Continent and Tasmania. New Zealand has long past been recognized by the wool trade as a cross-bred country. As has been consistently explained for some years past, the increased production of cross-bred wool is due to the development of the frozen meat trade, together with the more profitable use which can be made of cross-bred sheep generally over the southern portion of Australia. The various British breeds and their crosses are more prolific, and fatten more readily than merino. Furthermore, they are in every way more suitable for the smaller landholders, and especially those who combine grazing with agriculture, than their more aristocratic brethren. With a continuance of anywhere near present prices for mutton and lamb, and the expansion of closer settlement the various cross-breeds will push back the merinos."— Dalgety's *Report* for 1914, quoted in the *Bulletin of the National Association of Wool Manufacturers;* January, 1915, p. 49.

[2] *Tariff Board Report*, 1912, p. 66.

WORLD'S WOOL PRODUCTION IN MILLIONS OF POUNDS

Year	United States	United Kingdom (fleece washed)	Continent of Europe (fleece washed)	Australia	New Zealand	Argentina	Uruguay	South Africa
1900	288.6	141	450	409.4	156.2	439.6	88.2	40.0
1901	302.5	138	450	543.1	164.0	379.0	89.9	76.0
1902	316.3	136	450	413.3	167.4	435.6	89.1	89.0
1903	287.4	133	450	414.1	177.6	437.4	108.0	77.0
1904	291.8	132	450	473.6	179.4	385.1	89.1	75.0
1905	295.5	131	440	522.1	171.7	377.4	85.8	77.0
1906	298.9	130	430	577.7	189.5	379.6	89.7	88.8
1907	298.3	131	420	690.1	207.8	357.6	98.5	97.8
1908	311.1	134	420	642.2	200.5	392.4	111.6	104.3
1909	328.1	142	420	718.0	223.9	401.2	127.4	130.9
1910	321.4	143	420	.....	.....	327.2	124.3	121.7

The decline since 1910 is made clear when these figures are compared with the following table[1] which shows the computed world's wool production (including carpet wools) for the year 1914, the last computed figures not materially affected by the great war.

Country	Wool in million pounds
North America	309
United States	290
South America	455
Argentina	264
Uruguay	143
Europe	799
United Kingdom	125
France	79
Spain	52
Russia (Europe)	320
Turkey and Balkan States	90
Asia	273
British India	60
Russia (Asiatic)	60
Turkey (Asiatic)	90
Africa	207
British Africa	157
Australia (exports)	632
New Zealand	194
Australasia	826
Total World	2,872

These figures represent a net decrease of about 8,000,000 pounds from the computed world's produc-

[1] Condensed from table in *Bulletin of the National Association of Wool Manufacturers*, January, 1915, p. 59.

tion of the year 1913. The principal decline appears in the following countries:

	In million pounds
United States	6
Argentina	60
Uruguay	14
United Kingdom	7
	87

This was in part offset by the increase of 77,000,000 pounds in the Australasian clip.[1] The computed figures for 1915 show a further net loss of 36,000,000 pounds.[2] Thus it is evident that even before the war so seriously disturbed the world's wool trade, the decline in the world's supply was continuous and general. This is a fact which is receiving sober thought from manufacturers. And its importance must soon be brought home to the actual and potential wool-growers of the United States.

The total amount of fine wool retained in the United States for consumption during the past ten years ending with the first of the year 1915, and the percentage of these totals represented by imported wools, is given in the following table prepared by the National Association of Wool Manufacturers.[3]

FINE WOOL

Fiscal year	Retained for consumption (million pounds)	Per cent of Foreign
1904–05	426	31.54
1905–06	393	24.99
1906–07	390	23.50
1907–08	346	16.71
1908–09	476	34.60
1909–10	467	29.90
1910–11	366	12.38
1911–12	404	21.02
1912–13	384	21.00
1913–14	441	32.84
1914–15	526	44.91

[1] *Bulletin of the National Association of Wool Manufacturers*, January 1915, p. 60.

[2] *Ibid.*, January, 1916, p. 65.

[3] *Ibid.*, January, 1915, p. 13.

These figures apparently are arrived at by adding the imports of wools of the first and second classes to the total amount of domestic wool produced and then subtracting the total exports of wool.

Professor Taussig has averaged the imports of fine wools and the domestic production under the different tariff régimes since 1884. These he presents in the following table.[1]

	Average imports per year, of Wool, Classes I and II	Average domestic product per year
1884–90	26 mill. lbs.	321 mill. lbs.
1891–93 (under the McKinley tariff)	45 " "	329 " "
1895–97 (under the Wilson tariff, wool free)	153 " "	272 " "
1900–06 (duty restored)	65 " "	297 " "
1907–12 (duty restored)	95 " "	314 " "

The corresponding figures for the past three fiscal years representing the final years of the Payne-Aldrich Law and the period since free wool became effective again (November 1, 1913), are as follows:

	Imports	Domestic
1913	86 mill. lbs.	304 mill. lbs.
1914	143 " "	296 " "
1915	237 " "	290 " "

These figures give some idea of how violent the fluctuation is from year to year in the quantity of wool produced and the quantity of wool imported into this country, and how intimate and swift is the interaction between the domestic supply and foreign importations.

Summary

In summary it may be said that the world's wool production shows a continuous and serious decrease and a general tendency to shift from merino to crossbred types of wool. Substantial quantities of wools of the merino type, however, are still grown and these

[1] Taussig, *Some Aspects of the Tariff Question*, p. 304.

are bought heavily by American mills for the production of woolens and for certain types of worsteds. In late years American mills have been increasingly dependent on foreign sources for the merino types of wool, notwithstanding any changes in the tariff policy of the country. The chief areas adapted to this type of wool-growing are in Australia, the Argentine and South Africa.

If the American wool-manufacturing industries are to continue to increase, and the world's wool supply is not only not growing but actually decreasing, the problem of future supply of raw materials promises to become serious.

The change in public taste in men's wear from woolens to worsteds has increased the importance of cross-bred wools in our total consumption, and the worsted industry has proved to be particularly well adapted to American conditions both in the matter of production and marketing. Whether or not there should ever be a general return to woolens, with a relative decrease in the popularity of worsteds, woolens doubtless always will be an important part of our wool manufacture.

The production of cross-bred wools is increasing in most of the wool-growing countries and the weight of competition in the wool trade has shifted to these cross-bred wools. Meanwhile the net total of all kinds of wools grown is decreasing. Whether the United States can (either with or without the help of a tariff) adapt its wool-growing methods to meet these conditions rests with the farmers of New England and the Middle West, and the sheep-men of the "territory" section. This adaptation of methods is not an impossibility. But it involves more serious attention to the needs of the industries using their product than has hitherto been displayed by the American sheep-raisers.

CHAPTER III

THE DOMESTIC WOOL SUPPLY

THE sheep-raising industry of the United States is in a state of transition. The changes taking place in every part of the country are so radical that any prediction as to what its future is to be is purely speculative. If the continued success of American woolen and worsted manufacturing industries depended on the preservation of American wool-growing in the condition in which it has existed for the past twenty-five years, their future would be dark indeed.

As American agricultural conditions become more intensive there may be a serious returning to sheep-raising. But it seems probable that this will not be in the form in which the industry formerly prevailed, either in the merino sections of New England, or the "fleece wool" sections of the Mississippi and Ohio Valleys, or the "territory wool" sections farther west. All three of those former types of sheep-growing seem to have disappeared or to be undergoing revolutionary change. A more probable future form for sheep culture here would be some form similar to the sheep-raising methods of Europe. A practical wool grower describes European conditions as follows:

> The traveler in England, Scotland, and parts of France and Germany is impressed by the importance of the sheep industry to these lands. Sheep farms are often found close together and of large size with great numbers of sheep thereon. The writer has stood on one hill in Dorsetshire and counted eight shepherds, each with his flock of about 400 ewes and their lambs, in sight at one time. Nearby,

in an adjoining county, flocks of Hampshires exist as large as 2,500 on farms of not above 1,400 acres of not extra soil. These flocks are very profitable and they make rich soils that without the sheep would be hardly worth cultivating. They exist in wonderful health and vigor on lands that have been sheeped since civilization peopled the land. In Scotland and the Cheviot hills flocks exist over the entire land, and without sheep the land would almost lapse into wilderness. In France on lands worth $250 per acre great flocks of mutton sheep are kept. The agriculture of these countries leans strongly on the sheep. Long experience in maintaining fertility, in creating it, has taught the farmers that without the flocks they cannot continue profitable agriculture. Sheep fit in well to an intensive system of agriculture.[1]

Our present wool production may safely be described as one of the least creditably conducted of American industries. To quote a wool grower:

> In America sheep farming is little understood. Sheep are kept in a more or less desultory manner, having the run of some hill pasture or woodland, fed at intervals in winter, sold off when prices become low, bought up again with the return of higher prices, given small care or encouragement, often afflicted with parasites, internal and external, a side issue with the farmer, profitable in spite of his neglect, yet not often assuming the dignity of a business of themselves. There are several reasons for this state. It is in part a heritage of the days when sheep were little valued for their flesh and were kept mainly for their fleeces. It is in part a result of our once cheap lands and insufficient labor with which to till them. And in large part it is because of ignorance of profitable methods[2]

Although present conditions are manifestly temporary, they must nevertheless be considered as an important part of the raw material problem of the woolen and worsted manufacturer. Without undertaking to fore-

[1] Joseph E. Wing, *Sheep Farming in America*, p. 13.

[2] *Ibid.*, p. 14. See also F. W. Taussig, *Some Aspects of the Tariff Question*, ch. xix.

cast the future course of the American wool-growing industry, except in a most general way, it may be well to examine some of the conspicuous features of the past development and present status of the industry in order to get some idea of its bearing on the raw material problems of American mills.

American sheep breeding has been confined to two main types of sheep — merinos and cross-bred mutton sheep. Few pure bred mutton sheep are grown.

Merino sheep and their crosses are the "fine wool" producers. Their main characteristics are hardiness, good herding habits, long life, and, in the main, small size and poor or mediocre quality of flesh for mutton purposes. The American merino produces a fair grade of mutton. Breeders of this type are still sent from the United States to Australia. The Rambouillets are French merinos of Spanish origin. They are larger, and produce a somewhat coarser wool than the American merino, and retain the more valuable merino traits. Rambouillets are now very popular in parts of the "territory wool" section. Delaines and Black-tops are merinos.

Of the mutton breeds used for cross-breeding in this country nearly all have come from English stock. These sheep are large animals, bearing coarse (and some breeds very long) wool. The flesh is fat and sweet and the large size of the animals makes them profitable for mutton purposes. They are not as hardy as the merinos as a type, and some of them do not herd well. Most types of mutton breeds also are shorter lived than the merino breeds.[1]

These few observations about the two main types of sheep will be of help in understanding the bearing on our wool supply problems of the conditions reflected in the following table compiled from data in the *Tariff Board Report*, p. 605:

[1] See J. E. Wing, *Sheep Farming in America*, chs. i and ii.

	Rams				Ewes			
	Rambouillet	All merino breeds	Shropshire	All mutton breeds	Rambouillet	All merino breeds	Shropshire	All mutton breeds
	%	%	%	%	%	%	%	%
Ariz.	83	87	9	13	54	100	..	..
N. M.	78	94	6	6	43	95	..	5
Colo.	59	67	15	33	44	91	2	9
Utah.	44	..	..	56*	44	56	..	44*
Nev.	8	16	76	84	...	75	8	25
Cal.	9	50	36	50	6	100	..	..
Ore.	21	61	21	39	30	93	2	7
Wash.	18	18	55	72	100	100	..	..
Mont.	28	42	2	58*	33	56	..	44*
Idaho	7	17	19	83*	...	65	..	35*
Wyo.	30	64	..	36*	24	90	..	10*

*Cotswolds are the most common of the mutton breeds. The following are the percentages of Cotswolds to total number of rams and ewes in the states were they are most popular:

	Rams	Ewes
Utah	56	44
Montana	36	33
Idaho	35	22
Wyoming	30	10

In all the states given in the table except Utah, Nevada, Montana, Washington and Idaho, the greater part of the rams are merinos. Utah specializes in Cotswolds; Washington and Nevada in Shropshires. In all eleven states the ewe stock is mainly merino. The chief exceptions are Utah, Montana and Wyoming, where Cotswold ewes are popular. The ewes from the West, sent into the corn belt for breeding to pure bred mutton rams, produce lambs that sell well.[1] Some successful attempts have been made to grow long-wool breeds, but the mountain breeds have not figured conspicuously in our sheep history.

In general it may be said that our wool-growing history has not been particularly brilliant, if we except the early development of the Vermont merino. Merino sheep were first introduced by William Foster who in 1793 brought two ewes and a ram from Cadiz, Spain, after a temporary residence there. These sheep are said to have been eaten by Andrew Craigie of Cambridge, to whom they were given,

[1] *Tariff Board Report*, p. 556.

and who did not know their value. Other early importations of merinos were made by Seth Adams (1801), Dupont de Nemours and M. Delessert (1801), David Humphreys (1802), and R. R. Livingston (1802). But the Vermont merino industry began in 1810 when William Jarvis of Weathersfield, Vt., then consul at Lisbon, sent to a Boston house his first shipment of 45 merino sheep.[1] By 1840 there were nearly 4,000,000 sheep in New England, and over 7,000,000 in the Middle Atlantic states. Now New England has only about half a million, and the Middle Atlantic states less than 2,000,000 out of a total for the country of about 50,000,000. Up to the time of the Civil War the industry grew rapidly in the Middle West and the North Central states, and declined in all other parts of the country. From then until about 1884 the Pacific, Southern, and Rocky Mountain states increased the number of their sheep enormously, and the North Central states began to decline. Since 1884 all sections except the Rocky Mountain states have shown a net decrease in their flocks, and now within the past two years, even in the Rocky Mountain states the decline has begun. The total flock of the country to-day is about 25 per cent larger than it was in 1870, and it is scarcely any larger than it was in 1884. The wool clip of the country, however, has shown a net increase during this time. It is now nearly double what it was in 1860. The maximum was reached in 1893. But there has been a decline of 12 per cent since 1909.

[1] The arrival of these sheep was on April 13, 1810, and the Boston Chronicle makes the announcement:

"We are happy to learn of the safe arrival of the ship Edward, from Lisbon, with 45 genuine full-blooded merino sheep. Massachusetts is indebted to the patriotic exertions of Messrs. Cornelius Coolidge and Francis J. Oliver, merchants of this town, for this valuable acquisition to its manufacturing interests."— *Special Report of the Sheep Industry of the United States* — 1892, p. 173.

See also article: The Introduction of Merino Sheep, by John Bruce McPherson, *Bulletin of the National Association of Wool Manufacturers*, Vol. 35, p. 224.

American Consumption of Domestic and Imported Wools

The average annual consumption of wool in the United States, if we include carpet wools, is now about 500 million pounds. In normal years about three-fifths of this is of domestic production and the remaining two-fifths imported, although these proportions, of course, show wide variation from year to year. The wool product of the United States during the past few years has averaged about 325 million pounds (including 40 million pounds of pulled wool) "in the grease," or about 140 million pounds scoured and made fit for spinning; with a value of nearly 90 million dollars. The imports of wool of all classes since 1910 have averaged about 200 million pounds "in the grease." The percentage of imported wool showed a marked rise above the average for the one year of peace after the Underwood Law was passed removing the tariff on imports of wool. These imports have a combined value of 40 million dollars per annum.[1] Altogether, then, we have in our total wool supply a raw material worth in an average year between 130 and 140 million dollars.

Of our imported wools a little over one-half are coarse carpet wools, which constitute what is virtually a separate commodity. If we consider clothing and combing wools alone, we find that the annual consumption is about 400 million pounds, of which about one-fourth are imported. Our domestic clip is nearly all wool of the clothing and combing types, and constitutes the remaining three-fourths, — about 300 million pounds.

Most of the wools now grown in this country come from west of the Missouri River. The chief wool regions are the Rocky Mountain states, the Pacific coast and Texas. These areas contribute two-thirds of our

[1] *Bureau of Statistics,* Department of Commerce and Labor. *Report on Commerce and Navigation,* 1909, pp. 352–353.

total clip. Montana and Wyoming together raise each year about as much wool as all of the states east of the Missouri and north of the Potomac. And these two with Idaho, New Mexico, and the three Pacific Coast states, contribute each year considerably more than all the other states of the Union combined. The wools grown in these far western states are known in the trade as "territory wools," and they are mainly of the merino type, quarter-blood, three-eighths, half-blood, or better.

The Tariff Board Report[1] contains the following summary of the situation:

It is estimated that about two-thirds of the wool grown in the United States west of the Missouri River is "fine" or "fine medium." The wools produced east of the Mississippi River will probably run in the aggregate around 25 per cent "fine." The figures herewith submitted have been compiled for the board by dealers specializing in home-grown wools.

Classifying "fine medium," which is a grade between half-blood and "fine," as "fine," we arrive at the following conclusions. Dividing the country into two sections, in the territory group, or Class A, are placed all the states, with the exception of Minnesota, Iowa, and Missouri, lying west of the Mississippi River. In the "fleece" group, or Class B, we put the states of Minnesota, Iowa, and Missouri and all the states lying east of the Mississippi River.

	Per cent of Class
Fine and Fine Medium Wools	
Territory or Class A	66
Fleece or Class B	23
Entire country	52
Half-blood Wools	
Territory or Class A	22
Fleece or Class B	8
Entire country	17
Wools Grading ⅜ and Below	
Territory or Class A	12
Fleece or Class B	69
Entire country	31

[1] *Tariff Board Report on Wool and Manufactures of Wool* (1911–12) p. 300.

The "territory wools" are subdivided into well defined groups. Texas wools, for example, are in almost every respect different, both in breed and in character, from most of the Rocky Mountain wools. California wools are like Texas wools in that on many ranches they are clipped twice a year. Oregon, again, differs from the other states in the character of wool product, the Willamette Valley being noted for its product of long wools (Cotswold and Lincoln), while most of the other flocks in the state are of high grade merino stock. Even the Rocky Mountain region is sharply subdivided. The wools of New Mexico are mainly merinos. The wools of Utah and Idaho are largely Cotswolds, and even Montana and Wyoming have been shifting in recent years to a larger use of Cotswolds, Shropshire, and other mutton breeds from their former use of purer merino stock. Generally speaking, however, these western wools are grouped together because of their common characteristics. They are dominantly of half-blood merino or finer grade; they are grown under open range conditions and therefore are very dirty and lose a large amount of weight in scouring;[1] and, they are carelessly packed in 300 pound bags with good, bad and indifferent fleeces all mixed together, and with no attention to condition.[2] This last characteristic is the most important of the three from the standpoint of the wool manufacturer. It means that between the wool grower and the mill there are the difficult and costly processes of assembling, grading, and storing wools which few mills can perform for themselves. This is the field of the wool merchant whose work will be described more fully later.[3]

[1] Called "heavy shrinkage" wools.

[2] A few California wools are packed in bales. The Department of Agriculture and some of the wool-growers' associations have been endeavoring to induce flock-masters to pack their wools more carefully. A report of recent results will be found later in this chapter.

[3] *Infra*, ch. IV.

Aside from the "territory wools," the chief portion of the American raw wool supply is made up of what are known as the "fleece wools." This term is applied to wools grown in the eastern half of the United States under farm, as distinct from range conditions. These wools also are elaborately sub-divided to correspond with geographic sections, as well as according to types and qualities. The "fleece" wools of the states east of the Mississippi make a little over one-third of the annual clip. They are largely (about 70 per cent) of what is known in the trade as "medium" grade. The percentage of "fine" is largest in West Virginia, Pennsylvania, and Ohio, but speaking generally, the eastern type of wool comes from cross-bred sheep raised quite as much for mutton as for wool. Wool growing in the East is an incident of general farming, and the flocks are relatively small, seldom over one thousand sheep and much more frequently under five hundred. It is a characteristic feature of this part of the supply, therefore, that these wools come upon the market in small lots. The wools from each state, again, are designated in the trade both by state and grade, as XX, X, ½, ⅜, ¾, common and braid. The wools of the same grade from different states will differ in value, character, and shrinkage — Ohio wools of one grade, for example, being worth, say, three cents a pound more "in the grease" than the same grades from Wisconsin. The average amount of "shrink" (or the loss of weight in scouring) is the main element accounting for these fixed differences in price, but they are due in part to variations in breeding types, weather conditions, and other causes.

Formerly most of the wools from the eastern part of the country were of a much purer merino stock, but the growing importance of the mutton trade has changed the character of the clip from "fine" or fairly full-blood merino wools, suitable for carding, to its

present high percentage of cross-bred wools of "medium" grade or lower, adapted primarily to combing for the manufacture of worsteds.[1] It may be observed in this connection that the trade terms "fine," "medium," "low medium," etc., do not refer to the degree of salability of the wools. They are merely an indication of their general character and quality. The "medium" and "low medium" wools are the longer, coarser, and stronger wools of the cross-bred sheep, and these very properties give them value for use in making medium and coarse worsteds. When the demands of fashion are strong for worsted goods and light for woolen goods, the prices of the "low grade" wools "in the grease" often are as high as those for "fine" wools, and at times even higher.

The Domestic Wool Supply as a Manufacturer's Problem

From the standpoint of the wool manufacturer, the great interest in the American wool-growing industry centers about the question whether wools of types suitable for use in American mills can be grown profitably in this country in competition, not merely with foreign wools, but with other domestic farm crops. Up to 1913 almost any American wool that was strong enough to spin could be sold at a profit before foreign wools could compete with it under the tariff. Wool buyers sought the domestic clip in keen competition. After they had visited the "territory" wool centers and had been to see the merchants of the "fleece wool" districts, there was usually little left on the market that could by any stretch of the term be called wool. Some of each year's clip was of wretched quality, but in normal years it would practically all be sold. The grower had no effectual inducements to breed his flock scientifically or to pack his clip with care. Some flock-masters, to

[1] Wright, *Wool Growing and the Tariff*, ch. vii.

be sure, did breed and pack their wool with consummate skill. But, generally speaking, the sheep-man seemed to reason that, if carelessly bred flocks would yield plenty of wool, which could be packed in the most slovenly manner conceivable and still bring 19 cents a pound in cash at the shearing sheds, there was no good reason for going to great trouble and expense to produce a fancy clip which would not yield an adequate additional return. And the position was unassailable as long as competing foreign wools had a tariff duty to pay amounting to 11 cents on a "low shrinkage" grease wool basis.[1]

Obviously, it is unfair to blame the tariff with all the shortcomings of the American wool grower. Without tariff protection the numerous hardships which assail the wool grower in certain years might long ago have put an end to the industry in its present form. But it does seem clear that the prices offered by a protected market made the business attractive to many persons so inexperienced and incompetent that quality standards for wools were not easy to set up, or to maintain. To this, more than to any other one cause, may be attributed the inability of the sheep-growing industry in the Rocky Mountain states to continue a successful existence when dry farming and irrigation began to cut

[1] Leaving freight and handling costs out of consideration, a Montana medium or fine merino wool with a "shrink" of 66⅔% at 19 cents a pound in the grease would, when converted to a scoured wool basis, cost the same as a similar Australian grease wool with a "shrink" of 33⅓% at 27 cents a pound and dutiable at 11 cents a pound in the grease.

Montana Wool		Australian Wool	
Three pounds of Montana wool at 19c (66⅔% shrinkage)	57c	One and one-half pounds of Australian wool at 27c	40.5
Yielding 1 pound of scoured wool and 2 pounds of "dirt."		Duty on 1½ pounds at 11c per pound	16.5
		Yielding 1 pound of scoured wool and ½ pound of dirt. (33⅓% shrinkage)	
	57c		57c

into the open range.[1] Even before the tariff was removed in 1913, various influences such as these, had begun to threaten the existence of the old, range type of sheep raising in many parts of the "territory wool" section.[2]

The railroads opened up the country. Settlers came in large numbers. Public lands were claimed. And numerous efforts, some of them ill-advised, were made to spread farm, as against range methods of agriculture. These changes have played serious havoc in the sheep industry.

The resulting conditions may perhaps be most clearly summed up as follows:

The ranges have been fenced off and grass destroyed by plowing, even where the new forms of agriculture have not been successful. This restriction in the ranges has tended to decrease the size of bands of sheep and to reduce the size of typical flocks owned by single

[1] See article by P. S. Richards, "*The Golden Fleece.*" *The Forum*, May, 1912.

[2] "In the western region of the United States, with approximately 35,000,000 sheep, the net charge against a pound of wool is about 11 cents. In the other sections, with about 15,000,000 sheep, the net charge against a pound of wool from the merino sheep, which number approximately 5,000,000, is about 19 cents, and the net charge against the wool grown on sheep of the crossbred type is negligible.

"On an average for the United States as a whole the net charge against a pound of "fine" wool is a fraction over 12 cents.

"Accepting 19 cents as the average charge against a pound of wool of a distinctly fine or fine medium character grown in the farming states, 11 cents as a fair average for the western states, and assuming that on an average the smaller farm flocks of a distinctly mutton or coarse wool type pay for their own wool, and giving each class its approximate relative weight in the calculation, a general average for the entire clip of the country, all grades included, would be about 9½ cents per pound.

"As intimated above, while the expenses in the United States during the year under review were fully up to the average for a series of years, the receipts fell below the average. It is but fair, therefore, to assume that the estimated income of 6.2 per cent should, under normal receipts, be considerably increased. There is no contingency, however, in sight that can by any possibility place domestic growers on an equality in the matter of costs with their competitors in South America, Australasia, and the Cape Colonies." *Tariff Board Report*, pp. 376–377.

flock-masters. The sheep-man's margin of profit, even in good years, has been decreased by additional expense for range rental, as well as by the decrease in the size of the flocks. There has been some increase in paddock, as compared with range feeding. The tendency to increase the mutton strain has been accelerated even in the Rocky Mountain section.

New Conditions of Competition between Domestic and Imported Wools

These changes were already at work in the "territory wool" region when the tariff of 1913 made wools free of import duty. This brought the "territory wools" into unprotected competition with the Australian wools, which are of the type most nearly similar to them among the world's wools. But the Australian flocks are skilfully bred, the wools carefully raised, the fleeces skirted, rolled, and baled. In short, these wools come into the market in good condition. Nothing now appears to stand between the "territory" sheep-man and annihilation, unless he shows ability to compete with Australian wool growers in intelligence and care in breeding and packing methods.[1] The Department of Agriculture has taken practical steps looking toward a successful meeting of this situation. The first step has been the issuing of three bulletins for the benefit of wool growers. The first bulletin issued was on the subject of sheep-killing dogs as an obstacle to sheep-raising in the Eastern states. The second urged better methods of preparing wool for market. This latter bulletin compares American and foreign methods of packing wool by citing the case of two lots of wool of the same grade, one of them from Idaho and the other from Australia, which were purchased by a Phila-

[1] The European war conditions have deferred the natural action of competitive laws temporarily by restricting wool shipments from Australia to the United States.

delphia manufacturer. "The American wool," the report says, "was purchased for 18½ cents a pound, and the foreign wool at 28 cents a pound, before scouring. In the American fleece the kind of wool this manufacturer really wanted amounted to 86.79 per cent of the total, while in the foreign fleece it amounted to 98.96 per cent.

"A more accurate system of grading had given this manufacturer 12 per cent more of what he wanted than the American methods. In consequence, the foreign sheep-grower got the larger price for his fleece. The manufacturer paid for the imported wool 28 cents a pound and for the domestic wool 18½ cents a pound, a difference of 9½ cents. By the time shrinkage, 'off sorts,' etc., had been deducted, however, the cost per clean pound to the manufacturer of the wool he wanted was 41.32 cents for the American fleece and 44.69 for the imported, a difference of only 3.37 cents. It may have cost the foreign grower a little more to prepare his fleece, but he more than recovered this in the higher price he sold it for."

The bulletin suggests fifteen rules for the use of wool-growers who want to market their clip to best advantage. These rules, which are suggested as remedies for some of the worst of the prevalent defects in methods of preparing wool for market, are as follows:

1. Adhere to a settled policy of breeding the type of sheep suitable to the locality.
2. Sack lambs', ewes', wethers', and all buck or very oily fleeces separately. Shear separately and keep in separate sacks wool of widely different kind.
3. Shear all black sheep at one time, preferably last, and put the wool in separate sacks.
4. Remove and sack separately all tags, and then allow no tag discount upon the clip as a whole.
5. Have slatted floors in the holding pens.
6. Use a smooth, light, and hard glazed twine.

7. Securely knot the strings on each fleece.

8. Turn sacks wrong side out and shake well before filling.

9. Keep wool dry at all times.

10. Make the brands on all sheep as small as possible, and use a branding material that will scour out.

11. Know the grade and value of your wool and price it accordingly.

12. Do not sweat sheep excessively before shearing.

13. Keep the corral sweepings out of the wool.

14. Do not sell the wool before it is grown.

15. When all these rules are followed place your personal brand or your name upon the bags or bales.

The third of these bulletins reported results at several points where better methods actually had been tried. Attention was called to the fact that the Pioneer shed, located near Bitter Creek, Sweetwater County, Wyo., would place upon the market that year (1915) 1,500,000 pounds of wool, prepared under the supervision of men familiar with shed operations in Australia and New Zealand. At this shed the fleeces were skirted, rolled, classified and baled according to the Australian methods. The young men employed in the wool room came principally from the University of Wyoming and from the Rock Springs High School. This represented the first instance of training young men at home for employment in the industry that is foremost in several of the Rocky Mountain states.

This bulletin also shows that at Ely, Nev., and at Wamsutter, Daley's Ranch, and Solon, Wyo., the plan of preparation did not involve the use of labor in skirting the fleeces and in preparing the skirtings into first and second pieces and locks, as was done at Pioneer Shed. The pieces were carried from the shearing room to tables in the wool room, where men who had had experience in warehouse grading removed the heavier tags, rolled each fleece and assigned it to the bale under

its proper name, no bale containing fleeces of more than one grade. No string was used. The weight of the "tags" and "locks" amounted to about 6 per cent of the total weight of the clip.

The bulletin says: "A striking result of the work was the surprise shown by sheep-owners who, for the first time, saw wool graded, and for the first time knew what grade of wool they actually produced. Heretofore, in reading market reports most growers have been prone to note quotations for the highest grade and to value their own clips accordingly. It was commonly stated that, considered alone as furnishing a lesson in breeding for the production of better wool, this year's experiment was worth its entire cost." [1]

The progress made by the National Wool Warehouse & Storage Company, which has been a pioneer advocate of scientific methods of marketing wool, is summarized as follows by the *Textile Manufacturers' Journal* for February 6, 1915:

> The National Wool Warehouse & Storage Co., Chicago, with branch offices in Boston and Philadelphia, has announced that it has decided it will prepare wool at the time of shearing next spring under a modified Australian system at several points in the inter-mountain states. The company believes it will tend to solve the problem of establishing standards, and will place the wool growing industry on a more stable basis, if there can be placed on the market a more or less extensive quantity of wool, graded at the time of shearing, along lines which would probably meet the requirements of manufacturers.
>
> It is planned to enter into grading contracts with growers in various sections, and experienced men will be sent to grade the wools. In a few places and in a more or less limited way, the full Australian system will be inaugurated. Where there are sufficient growers in a neighborhood who desire to have their wool put up in this manner, the company

[1] *Farmer's Bulletin*, No. 652, *Sheep Killing Dogs. Yearbook of the Department of Agriculture*, 1914, Y. B. Separate 645, *Suggestions from Australasia to American Sheep Raisers. United States Department of Agriculture, Bulletin* No. 206, *The Wool Grower and the Wool Trade.*

will supervise the work, but otherwise the first season the wools will not be skirted. Tags will be removed, fleeces will be rolled, graded and baled — no string or twine of any sort being used. A statement will be furnished the owner showing the number of bales of each quality, and also an estimate of shrinkage.

This step is the most recent in the educational work undertaken by the company in an effort to place the American clip on the market in a more merchantable condition. It has not confined its work to members alone, but to wool growers throughout the section covered. A traveling exhibit showing the salient points of wool production and manufacture has been sent throughout the sheep raising country to fairs, conventions and at shearing time. They believe the progressive wool growers of the West are now ready to take a more advanced stand in the matter of preparing their wool for sale.

While the company under its proposed plan will seek to secure uniformity in grading, and will endeavor to work along lines which will meet with the approval of manufacturers, it is considered that without Governmental standards of length and degree of fineness, it will be impossible to classify the wool so as to meet exactly all buyers' ideas of quality. To-day there are no clearly defined or generally accepted standards for wool. It may be graded, under the same name, differently in Boston, Philadelphia, and Chicago, and one year's grading will be different from the next. Very frequently wools are graded to suit certain style requirements, and are never classified to meet clearly defined standards of quality which would be unquestioned by all buyers.

The efforts of the company in this direction will be watched with great interest not only by wool-growers and dealers, but likewise by manufacturers.

If there is no return to a protective tariff, the main effects of free wool on our "territory wool" industry may be expected to be: First, the abandonment of the industry by all except the ablest and most progressive sheepmen; second, the survival, even among the competent ones, only of those who are willing and able to adopt new and scientific methods; third, a probable acceleration of the movement already manifest to increase

the mutton strain in our territory flocks (resulting in a relative increase in the country's output of coarser wools, and a relative increase in the annual movement of lambs into the corn belt in the fall for winter feeding); fourth, increased attention to care in breeding and in the preservation of flock standards; and fifth, marked improvement, which is already manifest, in the methods of preparing the fleeces for the market. These changes alone would put the American woolen and worsted manufacturer on an entirely new basis so far as the purchase of his American wools is concerned.

The "fleece wool" grower in the eastern part of the country is on an entirely different footing, in the matter of the tariff, from that on which the "territory" sheepman rests. His competition is not with the fine wools of Australia, but with the cross-bred and purer mutton wools of Europe, notably those of England. His production costs for wool are in a measure negligible, and instead of his wool being forced to compete with other farm products for the use of the land, it supplements those other products. Furthermore, rising meat prices offer him an inducement to enlarge his sheep-raising undertakings in times of normal grain prices, quite aside from any question of wool prices.

An increase of mutton-growing in the eastern half of the United States seems to be indicated by a number of different changes in recent conditions. But this return to the industry has been much slower than those interested in it have wished.[1] And it has been much

[1] "We manufacturers want to use American wool, but we have increased difficulty in securing enough for our purposes. The imports of last year were twice the imports of the year before and the American wool production rose only from 311,000,000 to 328,000,000 pounds.

"There are 258 sheep to the square mile in the United Kingdom, and there are only 9.6 sheep to the square mile in New England. Here is a condition which is well worth the while of your Department to take some vigorous measures to equalize. Our New England hills are certainly as well adapted to the growth of sheep as the hills of Old England and Scotland. There is a great market for mutton here in

slower, also, than the growth of the woolen and worsted manufacturing industries. Any very marked increase in the growing of cross-bred or even of mutton sheep in the "territory wool" section of the country might have the effect of retarding this Eastern mutton-growing movement, or it might even cause it to take the form of a sheep-feeding, rather than a sheep-raising industry.

Without attempting prophecy, then, there appear to be a few factors which must be considered by the expanding woolen and worsted manufacturing industry when viewing the future of its domestic wool supply:

(1) The predominance of the pure merino sheep in the American flock is bound to be short-lived.

(2) There is every reason to expect an increase of mutton, and cross-bred sheep growing.

the New England states, and an immense industry of manufacturing. But we cannot get enough American wool, and we prefer American wool and would use a much greater quantity if we could secure it.

"Just consider these significant figures of the number of sheep and the wool production in New England in 1891 and 1909:

	1891		1909	
	Sheep	Wool pounds	Sheep	Wool pounds
Maine	547,670	3,286,020	210,000	1,260,000
New Hampshire	183,183	1,099,098	70,000	434,000
Vermont	351,249	2,458,743	180,000	1,170,000
Massachusetts	55,965	335,790	35,000	210,000
Rhode Island	20,433	122,598	7,500	39,750
Connecticut	45,824	229,120	38,000	190,000
Total New England	1,204,324	7,531,369	540,500	3,303,750

"We have lost one-half of our sheep in New England since 1891, and one-half of our wool production. There has been some increase in the regions further West, but that gain has not been so large as it ought to be and there ought not to have been any reduction in New England. If proportionately to the area there were as many sheep in New England as there are in the United Kingdom, instead of 540,500 we should now have 15,000,000 sheep grazing on our nothern hills. What this would mean in the way of advantage to American manufacturing, the improvement of the land, and direct and indirect benefits to New England agriculture you can readily grasp."—*Letter of Wm. M. Wood, president of the American Woolen Company to Hon. James Wilson, Secretary of Agriculture*, January 28, 1910.

See also *Infra*, ch. XVI.

(3) Whatever wools are grown in this country will necessarily be more carefully bred and packed than most American wools of the past have been.

(4) An increasing percentage of American mills' requirements of medium and fine wools probably will be imported, and a decreasing portion of mutton and cross-bred wools.

Serious attention has been given to arousing interest in American wool growing during the past year. The Philadelphia Wool and Textile Association, for example, during the summer of 1916 inaugurated a movement for increasing sheep breeding in Pennsylvania. The Agricultural Extension Service, operated through the State College, has formulated a "Sheep Project" by which the Extension Representatives are seeking for the facts about sheep-raising problems in the state and are interesting the farmers in this form of animal husbandry. The State Department of Agriculture is spreading the agitation through its institute lectures and is arranging to distribute breeding ewes to farmers. This latter work is financed by the Association. The President of the Association reports that up to September 20, 1916, applications had been received for seven thousand sheep.

The following circular issued by President William M. Wood of the American Woolen Company in the spring of 1916 gives an idea of how a leading manufacturer regards this movement:

"I would most earnestly commend to your attention the campaign of the Philadelphia Wool and Textile Association for "more sheep and more wool." Though the population of the United States is rapidly increasing, the number of sheep and the amount of wool produced here are falling off. In 1909, 328,000,000 pounds of wool were grown in this country: in 1915, only 288,000,000 pounds, a loss of 12 per cent in seven years. In the last fiscal year, out of a total of 591,015,495 pounds of wool available for consumption in the United States, foreign wools represented 300,000,000 pounds, or more than one half.

"Nor can we depend upon wool supplies from abroad — for the wool production of the whole world is decreasing. This world supply in 1915 was estimated at 2,836,000,000

pounds. In 1914 the estimate was 2,872,000,000 pounds; in 1913, 2,880,000,000; in 1912, 2,971,000,000. The great war has wholly cut off certain sources of supply, and made reliance on others most uncertain. Large numbers of sheep have undoubtedly been destroyed in the course of warfare.

"So critical is the situation that Great Britain, which controls nearly two-thirds of the world's wool, is contemplating the imposition of an export duty on this indispensable raw material when bought by any but British purchasers.

"National prudence demands an immediate increase in the flocks of the United States. The American people need more sheep, for food and clothing. In spite of the rapidity with which the cheap lands of the West have been taken up, there are still great areas in this country where sheep can be grown with a profit, by the exercise of intelligence and perseverance. Sheep can be grown again in large numbers on the abandoned pastures of the New England and other Eastern states.

"Australasia produces nearly three times as much wool as our own country — chiefly because in Australasia wool-growing is a modern, systematized business, and because all laws are made to favor it and worthless dogs are not allowed to harry and murder valuable flocks. National and state governments with us have done much to encourage agriculture and stock raising, but sheep and wool have not received their proper due. There is urgent need of a searching investigation of the whole question by national and state authorities. May I not ask you to take up this subject and do your share to the end that there may be more food and more wool for the American people?

"All this is an essential part of any patriotic national movement for preparedness, for the position in which this country would find itself in war — dependent on foreign sources for more than half its wool — is appalling to contemplate."

CHAPTER IV

THE WOOL MERCHANT[1]

THE quantity of wool consumed in the United States is now over five times as great as it was in 1860.[2] Since that year American wool growing has been radically changed in methods, location, and in character of output,[3] and the wool-manufacturing industries have been completely reorganized.[4] But the commercial link between these two—wool dealing—has remained practically unchanged. The dealers are of the same type, and the buying and selling methods remain very much as they were a half century ago. This lack of change has been advanced repeatedly by some as an evidence of the inherent efficiency of the system. Nevertheless, it is declared by others that the wool-marketing methods in this country are cumbersome, unscientific, and needlessly circuitous and expensive. Unquestionably there are defects, but the system is, in the main, an effective intermediary between the grower and the manufacturer. Any attempt to overturn the existing methods of the trade must at least offer some other method equally well adapted to American conditions. Relief from such ills as may exist is not to be looked for by modeling our system precisely on that employed elsewhere.

[1] Much of the material in this chapter originally appeared in the *Quarterly Journal of Economics* for February, 1911.

[2] *Statistical Abstract of the United States*, 1914, p. 509.

[3] C. W. Wright, *Wool Growing and the Tariff*, chs. vii and viii.

[4] *Special Reports of the Census*, 1910, vol. x, p. 93.

In England nearly all the imported wools are sold at public auctions. Most of the native wools from the south of England are also disposed of by this method. In the north, private sale and fairs with competitive bidding are more extensively employed.[1] The wide use of the auction system in England and also in Australia is accounted for by the legal restrictions on the sale of wool used as collateral for loans, as well as by other peculiar local conditions not found in the United States.

In Australasia, since the large percentage of the wool clip used as security for loans forces these wools to pass through a competitive auction sale, there results the necessity of uniform grading, which is best accomplished by the employment of a regulated grading warehouse system. The German markets present generally similar conditions and move most of their wools through auction sales. But in practically all of the rest of the world where wool is important in commerce,—in the United States, Uruguay and the Argentine, and Russia,—private sale is the prevailing method.[2] It is significant that wherever the auction system has been introduced in this country it has succeeded only when an adjunct to the accepted system, not when a substitute for it.

Although the United States is the third largest wool-producing country in the world, its trade in domestic wools is almost entirely intramural. No appreciable quantity of our domestic wools is exported. The fact that the price of wool as a rule is higher in the United States, than elsewhere, apparently would be enough to account for this. This eliminates from our wool-handling system a form of buying prominent in the colonial wool markets, and very important even in the British. Thus we have one very marked differ-

[1] J. H. Clapham, *The Woollen and Worsted Industries*, pp. 91–108.
[2] *Ibid.*, ch. iii.

ence between our wool-marketing situation and that of other countries,—whether it be the great wool-growing countries or colonies which export their product, or England, which is quite as much a wool assembler and distributer in the world's trade as a buyer for manufacture. British exports of wool in normal years amount to about one-third of the importations. Buying for reexport to dealers is clearly a much simpler commercial operation than buying for separation into closely graded lots to be sold to mills for specialized manufacture.

Furthermore, our American-grown supply is very promiscuous and uneven in its character, calling for much greater risk and demanding much more detailed knowledge in handling profitably; and this variety is increased by the fact that the domestic supply is inadequate in quantity for our own consumption and is supplemented each year by large quantities of imported wools. This diversity offers an additional contrast with British conditions.

The buying side of the American wool merchant's business has been built up to take care of these complicated conditions. Wool-buyers form the conspicuous part of the working force of the American wool-marketing system, and it is their work which constitutes the chief draft on the wool merchant's expense account.

The selling side of the business, on the other hand, has been influenced largely by the high degree of geographic concentration of the wool-manufacturing industries in New England and the Philadelphia section. Massachusetts, Rhode Island, and Pennsylvania produced over 60 per cent of the United States output of the manufactures of wool in 1910.[1] This, more than any other one factor, seems to explain the present localization of wool-dealing in Boston and

[1] *Census*, 1910, vol. x, p. 114.

Philadelphia. In selling, the organization of the business is simple as compared with that in buying. Although the sale of wool determines the dealer's ability to make his business profitable, it involves no problems or methods analagous to those in its purchase. Most of the dealers are constantly in touch with the wants of their own clients or of other large manufacturers, and wool-selling is largely a matter of promptness to take advantage of indicated conditions, personal touch with buyers, and a normal amount of luck. Such, in brief, are the buying and selling sides of the wool merchant's equipment.

As a result of the conditions under which it is grown, the greater part of the "fleece" wool supply is first assembled in ungraded lots by local merchants. These middlemen may be either local wool merchants, who usually buy outright the small lots brought in by farmers, or they may be local general merchants, who handle wool in connection with a general merchandise business, either on a factorage, or on a regular purchase basis. It is nearly always from these, rather than from the wool growers, that the Boston or Philadelphia merchant draws his eastern supply, and during normal years most of the business is done on a merchant, rather than a commission basis. In sluggish seasons the commission method is employed more freely by those small initial collectors of wool, but in years of wide fluctuations in price, all risks are shifted to the coast merchant as soon as he can be induced to take them. In a few cases eastern mills buy, in the "fleece" wool sections, direct from representatives who collect small lots for them. Occasionally, an eastern merchant may attempt to secure his supply direct from the farmers, but this method is expensive, slow, and pays only under exceptional circumstances. Most of the purchases in the East are of "bunched" lots bought by the representatives

of eastern dealers who make regular circuits among the "country" merchants.

The "southern" wools are uniformly poor in character, and are almost a negligible factor of the wool supply, usually amounting to not more than about one-twentieth of the country's clip. They are, however, marketed in much the same way as the fleece wools of the eastern states.

Throughout the western wool-growing states the typical flock is very large (often five thousand sheep, and sometimes eight or even ten thousand), and consequently the wool comes into the market in big lots. The accompanying large capital and the characteristic business sagacity of the western flock-master almost entirely eliminates any middleman like the country merchant of the East, except in the Pacific Coast states. Throughout the west the characteristic form of sale is direct to the "buyer" sent out by the wool merchants, or even by the mills of the Atlantic Coast.[1]

In years when conditions produce recklessness among buyers the western buying methods are materially modified by the practice of buying wool "on the sheep's back" months before it is ready for shearing, and hence long before its real value can be so much as guessed at. The year 1909 was such a year. An unusually heavy drop in prices during the early winter months combined with a confidently anticipated subsequent rise led many buyers to make large purchases of this kind, and by the end of February there were being offered, for ungrown wool, prices which in normal years would be considered good for high-grade clips. It is estimated that over one-half, and perhaps as much as two-thirds, of the year's clip of "territory" wools was sold in this way. Such speculation is generally condemned by wool buyers as being

[1] Interviews with buyers and flock-masters in Billings, Montana.

altogether unsafe. But even those who condemn it most sharply are occasionally found to practise it.

The wool-marketing methods of California and the Oregon-Washington district vary somewhat from those prevailing in the other western states — partaking of the nature of both the eastern and western systems. In California considerably more than one-half of the clip is usually sold directly to eastern buyers, while the remainder moves through San Francisco commission houses.[1] The California, Washington, and Oregon wools are almost the only wools clipped in this country which are shipped in bales. This baling is done at grading warehouses, and the bales, being of graded wool, are sold by sample.

In the Willamette Valley in Oregon, where about a million and a half pounds of wool are sold each year, the growers have been fairly successful in pooling their small lots into larger lots to be sold *en bloc* either by direct competitive bid or through a commission house. In eastern Oregon during the past five or six years, about forty per cent of the wools have been sold on "sealed bids" submitted by the buyers on appointed days. This system is peculiar in that submitted bids are binding on the bidders, but the grower may refuse all bids if he chooses to do so. The remaining portion of the eastern Oregon wools is moved by private sale.

The work of the "buyer" sent out by the eastern wool merchant houses is the most important, most complex, and most uncertain feature of wool-marketing as it is practised in this country. The wool buyer is required to be a clever judge of the profit-yielding powers of each lot of wool bought, but the price he offers cannot be based on that judgment alone. There are crop data for the wool clip of the various wool-growing countries, but in the United States these find

[1] *Report*, Industrial Commission, vol. vi, pp. 335, 336.

no centralized mechanism for their interpretation, such as is offered by the London wool auctions, or as may be found in the cotton and wheat exchanges which do so much to stabilize prices in those commodities. The individual interpretation of these data lies at the bottom of the whole wool price-making system in this country. It is responsible for such sudden outbursts of speculation as occurred in the "sheep's back" buying craze in 1909, and it makes the buyer's position often very precarious. Collusion on the part of the buyers, or pooling by the flock-masters may be resorted to, but under ordinary conditions uncertainty and instability characterize this branch of the business.

The functions of the eastern wool merchant, so far as the domestic wools are concerned, resolve themselves into two main tasks. The first is the purchase of large blocks of high-grade "territory" wools, and the purchase or marketing on commission of numerous small lots of medium or low-grade "fleece" wools. The second task is the assembling of these wools, grading them, and storing them in lofts at the chief buying centers for eastern mills, ready for purchase in graded lots for delivery in quantities and at prices to suit their manufacturing customers. Many of these merchants also assume functions of a financial nature. It is not an uncommon practice for them to advance to the growers of the west, or to the small merchants of the east, substantial sums of money on consigned wool, or even on prospective clips, and it is sometimes necessary for the merchant to carry his manufacturer customer for months or even, in some cases, until he can realize on his manufactured product.

The marketing of imported wools, while sometimes conducted as a special business, is more often combined with trade in domestic wools. As a rule it involves outright purchase, either direct through buyers

sent out from here to cover the London, Liverpool, or Australian auctions, or to buy in the Argentine or Cape markets, or else through brokers or agents permanently located abroad.

Attempts to Modify Service Performed by Wool Merchants

It is clear that the actual work performed by the wool merchant is an important and complicated service and that it would not be easy to dislodge him from his recognized position. But that the service he renders is susceptible of improvement is indicated with equal clearness by the efforts which have been made and are now being made to modify the organization or methods of the wool trade. These efforts may be placed in three general groups according to their underlying objects:

1. Those aiming at a complete reorganization of the American wool-marketing system by the concentration of the buying, selling, financing, and other phases of the business at some eastern point, and the introduction of the English auction system. The most noteworthy example of this type of effort was the New York Wool Exchange.

2. Those aiming at partial reorganization by bringing the buyers for eastern mills into closer contact with the wool growers, thus wholly or partially eliminating the eastern wool merchant.

3. Those aiming to preserve the existing system, giving due recognition to the place and work of the eastern wool merchant, while improving his equipment and facilities.

The New York Wool Exchange not only furnishes the most striking example of the first type of effort to modify the wool-handling system, but it was by far the most comprehensive attempt. This enterprise attempted to revolutionize nearly every phase

of wool-marketing in this country. It not only undertook to perform much of the work of the wool merchant, but it aimed to change completely the established American methods of wool buying and selling by the introduction of the London system of public auctions. It was also an attempt to shift the center of the wool trade from Boston to New York, and to persuade New York bankers to look on wool paper as favorably as Boston bankers do.

Ample capital was secured for the enterprise during 1894, and a handsome building was erected in West Broadway, New York City. On the ground floor was a banking room for occupancy by the bank which was a part of the enterprise. The next floor contained a huge salesroom, above which there were two floors of warehouse for storage which, with outside leased lofts, gave a capacity for 25,000,000 pounds of wool. The remaining five or six floors were occupied by offices for wool merchants and by a suite of rooms for the New York Wool Club.[1]

Arrangements were made for auction sales on stated days, rules being drafted similar to those prevailing in the London sales. Quotations based on these sales were made public and an attempt was made to group them under heads sufficiently descriptive to make them useful to wool buyers generally. The first sale aroused a fairly wide interest, but each subsequent one developed some new inadequacy either in the system or in the equipment for carrying out the Exchange plans. In November, 1898, after about two years of dwindling activity, the Exchange closed its doors and passed out of existence —salesroom, warehouse, newspaper publication, and the Tradesmen's National Bank, which was to have taught the New York bankers how to handle wool

[1] *Bulletin, National Association of Wool Manufacturers*, September, 1894, p. 316.

paper. The building, still known as the Wool Exchange Building, is now used for office purposes. The failure was complete.[1]

Numerous causes have been assigned for this total collapse. Some have to do with the personnel of the management and control; others relate to the unnecessary mechanical handling costs[2] involved in putting wool into the hands of the mill buyers by this method. It is probable that each of these causes had some effect, but even if they had not been operative, such an enterprise, particularly in New York, would have had to meet other and more fundamental difficulties. Chief among these are the lack of uniformity in American breeding and packing methods, and the peculiar character of our buying market.

The lack of uniformity in American breeding methods perhaps does more than any other one thing to make close or accurate grading of our wool impossible. Neither wools from any given locality, nor even separate clips have a closely uniform character.[3] Few American wools can safely be bought from the flock-master or farmer without undergoing individual examination. When the Wool Exchange attempted to list and prescribe a minimum number of standard classes, it was unable to reduce the list to as few as 200 main classes, and the relations between these were very hazy. This is in sharp contrast with the relatively simple grading systems for cotton and wheat, and also shows a marked difference from conditions in either the English or Australian wool-auction warehouses, where the varieties are much less diverse. Since the lack of uniformity and lack of care in packing domestic wools makes a guaranteed sale without individual examination very

[1] *Bulletin, National Association of Wool Manufacturers*, December, 1898, p. 361.

[2] Interviews with wool merchants in New York, Boston, and Philadelphia.

[3] *Bulletin, Nat. Assn. Wool Mfrs.*, December, 1898, pp. 363–368.

hazardous, grading and classing clip by clip becomes obviously a function which must be performed somewhere in the selling process and makes wool dealing in this country more than a mere commercial operation.[1]

The peculiar character of our buying market is another great obstacle to the success of such an enterprise as the New York Wool Exchange. The three classes of patrons for such an enterprise would be the wool merchant, the large manufacturer, and the small manufacturer. The first of these would not profit materially by such a marketing method unless the Exchange could cover the wool trade so completely as to enable him to dispense with the buyers he now sends out. This is hardly conceivable. The large manufacturer might get some substantial benefit from a compact marketing system of this kind, but he alone would reap any great advantage. The small manufacturer who buys closely and must confine himself to specific quantities of carefully graded wool for delivery at fixed times would be unable to get what he wanted at the Exchange except in rare instances. In nearly every respect the wool merchant can serve him better. Both before and since the New York Exchange similar enterprises have been advocated. This, however, is the only one ever actually put in operation.

The second group of attempts to better American methods of wool marketing, those aimed at bringing growers and manufacturers into closer contact, have also failed to accomplish what was expected of them. These attempts first took the form of local grading and auction warehouses at wool-collecting points in the west. Warehouses of this type are to be found at Billings, Big Timber, and Great Falls, Montana, and at various points in Oregon, California, and in the southwest. These, as a rule, furnish fairly satisfactory

[1] Public sales of wool were established in New York about 1869 and continued for two years by Walter Brown.

storage facilities. Moreover, to the grower they supply an opportunity to list and store his wool and the privilege of offering it for competitive bids on the lot, on set days and under more or less complete rules for selling and delivery; while to the wool buyer they offer a chance for careful inspection of the lot and for equality of opportunity in bidding. Some of these local warehouses and exchanges are operated by local associations of growers. Others are both owned and operated by the local growers' associations; and still others are maintained by the local dealers either as companies or as associations. These two latter types are common in the southwest. In case of ownership by dealers, the local warehouses are often used to concentrate the wool trade of the particular district at special points. These efforts at concentration are often aided by special inducements, such as free storage or reduced handling charges.[1] Some of the local warehouses have been in existence since the early nineties, but as a whole they have not brought about the directness of contact between grower and manufacturer which was their original purpose. They have, however, proved to be a valuable convenience for the eastern merchant buyer at many points.

The latest development in the second group has been the establishment of warehouses located at the eastern terminals of the transcontinental railroads, and carried on as co-operative storage and sales depots, where it was planned that the growers should offer their clips direct to the manufacturers. The Wyoming Wool Growers' Association in 1908 built a warehouse in Omaha, and put in it, during its first season, about a million pounds of wool. Auction sales were announced for December of that year,[2] but the mill buyers failed

[1] *Report*, Industrial Commission, 1900, vol. vi. p. 330.

[2] *Bulletin, National Association of Wool Manufacturers*, December, 1908, p. 357.

to respond. Most of the sales made were to the same old eastern buyers. The auction bidding feature failed altogether. The warehouse is now used for ordinary storage purposes and the auction feature has been abandoned.[1]

A plan much more elaborate and much better worked out is that of the National Wool Warehouse and Storage Company of Chicago. This is a concern incorporated under the laws of West Virginia with $400,000 capital. The National Wool Growers' Association is heavily interested in the enterprise, and its members subscribed for $250,000 of the stock, the remainder coming from Chicago merchants.

In 1909 a fireproof warehouse, five stories high, 150 x 250 feet, with good rail connections, was built in Chicago, and it has been equipped with handling systems designed to reduce to a minimum all moving and storage costs. Each wool-growing stockholder is under agreement to deliver each year for three years not less than 5000 nor more than 6000 pounds for each $50 share of stock he holds. In this way the warehouse is guaranteed for three years an annual total of at least 25 million pounds of wool. It was the original purpose to induce the eastern buyers, and especially the mill buyers, to come to Chicago to make their purchases.[2]

The original plan has been modified, and now the wool is merely assembled for storage in Chicago and is sold entirely on a commission basis, partly through a Chicago sales office, but chiefly through branch selling offices in Boston and Philadelphia.[3] These selling offices keep stocks on hand and sell to the mills by private sale exactly as if they were the usual type of

[1] Interviews with wool merchants in Boston.

[2] *Bulletin, National Association of Wool Manufacturers*, December, 1909, p. 520.

[3] Interviews in Boston.

merchant or commission house, all sales being made on the usual commission of one cent per pound. This enterprise, therefore, has achieved its original purpose of direct contact between the grower and the mill, not by its original plan of compelling the mill buyer to come to a storage warehouse for his wool, but by going into the wool merchant business and taking the wool to the mill buyer.[1]

These efforts to "eliminate the middleman" in the wool business of this country appear to have failed of that purpose. In a few cases they have produced permanent results when they have established institutions which the middleman could make use of, or when they have themselves taken up the wool merchant's work and conformed to the accepted middleman system.

The third group of efforts to improve the wool-marketing methods of the country by recognizing the merits and utilizing the form of the present system, while correcting some of its defects, bids fair to accomplish results far more satisfactory than even the best achievements of the other two groups.

The new wool warehouse in Boston is the most recent and striking illustration of this group of changes. The warehouse has a storage capacity of over 100 million pounds, or more than one-third of the clipped-wool yield of the country in ordinary years. Moreover, it is so constructed as to reduce all the necessary costs of wool-handling and storage to an absolute

[1] An interesting feature of the work of the National Wool Warehouse and Storage Company is the effort it is making to better packing methods of the "territory" wools. The president of the company, J. E. Cosgriff, several years ago began holding meetings of flock-masters and bankers in the wool-growing states and demonstrating to them the advantages of greater care in packing methods,— the elimination of such practices as "false packing," "double fleeces," etc., and is urging other reforms, such as the use of paper twine for fleece tying. He is also at work on plans for standardizing of breeding practise. It is hoped that in this way the company may raise the standard of the wools passing through its hands, and perhaps ultimately put the American breeding and packing methods on a par with those which prevail in Australia. See also *supra*, ch. III.

minimum. The persons by whom it has been erected are in close association with the American Woolen Company; and it has been leased to dealers from whom that company is supposed to purchase a substantial part of its wool.[1] This enterprise represents a distinct advance in the physical equipment of the Boston wool trade, and it will be followed, no doubt, by other devices to meet the rise in the handling costs at the chief wool market of the country.[2]

One line of improvement which has been seriously discussed by certain Boston wool merchants, although the project has not assumed concrete form, is the betterment of selling methods by introducing a modification of the Bradford conditioning house plan.[3] Under the present methods of wool selling a merchant may send, for instance, three "sample bags" of wool of established grade to three separate mills for scouring test. He may be convinced that the three bags are identical in grade, and yet the return from the tests may show a variation of from three to seven cents in the scoured basis price, according to the test methods applied at the different mills. A conditioning house, making a disinterested test by invariable standard methods, would give a fairer basis for the transaction from both sides. One Boston dealer estimates the annual losses to the wool trade from improper scouring tests alone at not less than $5,000,000.

[1] *Bulletin, National Association Wool Manufacturers,* December, 1909, p. 523.

[2] Organizations for better understanding between wool dealers and sellers of wool, and for combined action in meeting questions of freights and other charges inherent to the conduct of trade, have been established in Philadelphia and Boston.

The Philadelphia Wool Trade Association has been in existence a number of years. The Boston Wool Trade Association was established about four years ago with Jeremiah Williams as first President.

[3] For description of equipment and methods of Bradford conditioning house, see *Scientific American Supplement,* Nov. 12, 1904, pp. 24,133 and 24,134.

Summary

The place of the wool merchant as an intermediary between the wool grower and the wool manufacturer in this country seems to be firmly established. He performs a function which cannot be performed either safely or satisfactorily by grower or manufacturer except in isolated cases, and, on the whole, he does well his risky and complicated work. If the wool-marketing methods of the United States are capable of material betterment it is along the line of increasing the efficiency of the wool merchant's methods and equipment, and not by the elimination of this type of middleman.

The only other apparently possible modification of the generally accepted methods for marketing raw wool is that which might be expected to follow complete reform in methods of breeding and packing domestic wools.

If economic pressure should put a stop to the careless methods of growing and packing wools which have characterized the American industry for so long, and if the possibilities of substantial profits from wool growing under better methods should be demonstrated beyond dispute, then it would not be long until domestic wools would appear in the market on an entirely new basis. Much of the present speculative element of the wool merchant's function would be gone. Auction sales, both at local points in the west and at the chief eastern buying centers would become both feasible and desirable.

Whether this would mean the "elimination of the middleman" and more direct contact between growers and mills is by no means certain. But it is certain that much of the speculative lure would be removed from the wool merchant's business as it is at present conducted. As an assembling business done on a narrow margin and depending on volume for profits, wool-dealing might not

be as attractive a business as it now is. It might still perform an indispensable function and do it more effectively and at less cost than it could be performed by direct sale. Better wool growing, better wool, and better preparation for the market may mean radical change in the work of the wool merchant, but they do not necessarily involve his extermination.

CHAPTER V

TECHNICAL PROCESSES OF THE WOOLEN AND WORSTED INDUSTRIES

THE commercial value of a textile fabric is determined partly by the structure of the cloth, and partly by the design. In many fabrics the latter is the more important element of the two. The value of the brains of the designer and of the artisan, is far more difficult to put on a competitive basis than the price of wool or labor. The distinction between these two elements is a necessary one to keep in mind in a commercial discussion.

So far as cloth structure is concerned, the woolen and worsted manufacturing processes have been standardized. For fabrics in which structural perfection is the chief element, therefore, the main emphasis is on economy and efficiency of production and volume of sales. On the other hand, as regards fabrics in which design is the important factor, stress is laid on originality, beauty, or conformity to current fashion. Elements of this kind cannot be standardized.

It is evident that as the importance of the element of design is increased the commercial hazards as well as the manufacturing difficulties of the cloth-maker are magnified. The maker of fancy fabrics needs to be in a position to change his output quickly.

In order to have a proper understanding of the commercial bearing of these two elements in cloth production, it seems necessary to summarize some of the principal steps in the production of woolen and worsted fabrics. It will be the purpose of the remaining por-

tion of this chapter to describe briefly some of these processes. In the following chapter an attempt will be made to show what have been some of the most important effects of the interaction between the problems of production and those of selling in these industries.

Processes of Woolen Manufacture

The chief successive steps in the manufacture of woolens may be listed as follows:

1. Scouring
2. Carding
3. Spinning
4. Weaving
5. Dyeing
6. Finishing

1. *Scouring.* Wool as it is clipped from the sheep's back is full of dirt, burrs, and similar foreign substances, and the natural exudations from the skin of the animal. The latter are mainly wool fat and yolk or suint. The scouring process rids the wool of all these impurities and leaves it clean fibre, ready for carding. The dirt and other foreign matter are removed by mechanical washing. The suint also is soluble in pure warm water, but the fat must be specially treated. The ordinary treatment is the use of detergents in the water in which the wool is scoured. The action of these is partly chemical, saponifying the fats, and partly mechanical, emulsifying them and scattering them in fine particles through the water.[1]

[1] While this is the most common method of getting rid of the wool fats or greases it is by no means the only one. The Arlington Mills, of Lawrence, Mass., for example, have developed and patented a "naphtha solvent" process. William Whitman Co., Inc. write of the process as follows:

"Under this process the raw, unwashed wool, full not only of grease but of dirt, is subjected in a thoroughly safe and effective way to the action of the naphtha solvent. This removes the true grease of the wool, leaving, however, the natural alkali of the wool, which forms a natural soap with a base of potash. Then the application of warm — not hot — water suffices to cleanse the wool of dirt and to produce a fibre with all its impurities eliminated and its strength unimpaired, perfectly adapted for combing and manufacturing.

"This wonderful process, which the Arlington Mills exclusively employ, makes it possible to secure an increased amount of clean wool

This combination of mechanical and chemical treatment has been so standardized as to make possible the use of machinery throughout the scouring process. The main work of scouring is conducted in a series of tanks fitted with rollers, forks, elevators, etc., and known as a leviathan; but in addition to these machines there are rinsers, beaters, wringers, hydro-extractors, dryers, burr extractors, and finally opening and willowing and oiling machines, the mere list of which gives an idea of the successive processes of preparing wool for the cards.[1]

Wool scouring is not, strictly speaking, a step in woolen manufacture, for it merely puts the fibres into condition to be worked up into yarn. But in this country it is now, and has been since the introduction of power, carried on chiefly in the mills. The census of 1910 reports 28 specialized scouring establishments operated independently of textile mills. These reported a product value of $3,289,000. While this is very small compared with the value of all the scoured wool employed in the American textile industry, it is noteworthy that since 1899, when separate scouring plants were first reported, there has been a net increase of 3 such plants and a quadrupling of the product value. It seems probable that there may be some growth of independent scouring in this country, but the fact that scoured wool sometimes becomes felted when baled, and the fact that nearly every spinner

from a given quantity of unwashed wool. The fibre comes out in better and stronger condition than from the old processes, the cost of commercial soaps and alkalies is dispensed with, and there is a further considerable gain in the saving of valuable by-products, which can be marketed. The wool cleansed under these improved conditions produces a superior quality of top and yarn, softer, easier to work, and more desirable in every way than the product of the crude, old fashioned methods followed even now by many manufacturers in America and Europe."—*A Brief Outline of the Business of William Whitman & Co.*, p. 39.

[1] J. Zipser, *Textile Raw Materials and their Conversion into Yarns*, pp. 291–339.

feels that he can secure better results with fibre, the scouring of which he has himself supervised, will keep the greater part of the scouring under control of the mills as long as these conditions remain unchanged.[1]

2. *Carding.* The second step common to both the woolen and worsted industries is carding. The preliminary steps leave the fibres still tangled. The purpose of carding is to open out the fibres so that they lie loosely separated in a uniform film. It also eliminates remaining impurities and fibres too short to spin. In wool manufacture rotary cards are used exclusively, and usually the fibre is carded three times, the three sets of cards being known respectively as scribbler, intermediate, and finishing cards. From the first two the fibre comes in the form of a filmy lap. From the third it goes to a condensing machine where it is divided, and from which it comes in the form of a series of "rovings," or light round strands perhaps ⅛ inch in diameter. These are wound on spools and are ready to go to the spinning departments.

3. *Spinning.* The main characteristics of carded woolens are softness and felting qualities. Woolen yarns, therefore, are typically soft yarns, loosely spun. From the cards the roving for making these yarns goes directly to the spinning room. Most woolen yarns are spun on the mule. On the mule, the drawing and twisting (which are the two main features of the spinning process) are done intermittently in a four cycle process which is mainly automatic. On the throstle or spinning frame the drawing and twisting processes are continuous, and the product is a harder yarn than is spun

[1] The spent scour which formerly was complete waste now is first made to give up all the loose fibres it carries. It then yields its lanolin. Wool fat and recovered grease are secured by treating with sulphuric acid, either alone or in conjunction with lime, and finally potash and illuminating gas are obtained by concentrating the scour and calcining the residue. Plant for recovering these by-products is expensive, but when the same plant can be employed in the utilization of fulling mill waste the process of recovery is profitable.—Zipser, p. 301.

on the mule. Frame-spun yarn in woolen mills when employed at all is used for warp. The frame-spinning machines are of various types, but speaking generally they are simpler in construction than the mule, occupy less floor space by nearly one half, require less skilled labor for tending, and produce more yarn per spindle. Since the frame-spun yarn, however, is not so soft as mule spun yarn, for all soft fabrics the "filling," at least, and for most wool fabrics both filling and warp, must be of mule spun yarns.

Woolen yarns after spinning are ready for the loom, if certain types of plain piece-dyed cloth are to be produced. But for making other types of cloth, various supplementary processes may be introduced. Doubling, genapping, and various other fancy-yarn processes are employed, to say nothing of the great variety of methods used in dyeing and finishing yarns before weaving.

4. *Weaving.* Cloth essentially consists of two sets of interlaced threads, one set running lengthwise of the piece (the warp), and the other set running across the piece (the weft or filling). If the cloth is perfectly plain, the weaving process consists merely of running each strand of filling alternately over and under each strand of warp. Mounting a loom for such a fabric is simple. The warp yarns are wound on a beam, and their ends threaded alternately through two sets of heddles which rise and fall in rotation. In the opening thus made between these sets of raised and lowered warp, a shuttle containing the filling may be run, and the cloth is woven. But where colors, patterns or variations in weave are introduced the process becomes complex, and the work of mounting or dressing a loom so that it will produce a fabric according to design, becomes one of the most important parts of the whole process of cloth-making.

Weaving was among the last of the processes in making wool fabrics to be put on a basis of power

operation. Since the census of 1909 reports only 41 hand looms still in operation in the American woolen and worsted industry, out of a total of 72,000, American weaving may now be said to be completely on a power basis. In England, and still more on the Continent, the hand loom to a large extent survives.[1]

Plain standard cloth, which can be produced in enormous runs, is obviously the sort of product best adapted to the type of manufacturing in which American genius has had greatest success. Clearly, therefore, an exaggeration of fashion, or any other influence which decreases the relative opportunity for big runs on staples, not only increases the cost of weaving, but also increases the competitive disadvantage of the standardized, American type of cloth-making, as compared with the more specialized production of English and Continental weavers. This is more marked in weaving than in any of the other steps in production.

5. *Dyeing.* The greater part of the woolen goods made in this country is made from material dyed in raw stock and spun and woven colored.

6. *Finishing.* The main step in finishing woolens is the fulling or milling process, but the raising of the nap so as to conceal the weave is also important.[2] In

[1] J. H. Clapham, *Woollen and Worsted Industries*, p. 57.

[2] "Fulling, raising, and the associated processes of cloth-working — as the old term was — are most elaborately carried out in the production of fine broadcloths, uniform cloths and the like. Immense care and much time are spent on the best fabrics of this class. The fulled piece is raised by being made to revolve in contact with the surface of a great drum set over with teazle heads. This is an operation that must be performed with the utmost care, and it is often long drawn out. The cloths of the class just referred to are always damped before raising. Then the raised fibre is cut or cropped in a machine working somewhat on the principle of the ordinary garden mower. There may be several of these raisings and croppings. Between two of them the piece may be wrapped on rollers and boiled, a process that facilitates the production of the "face." Finally, the material is heated and mechanically pressed; then steamed, in order to get rid of the glazed and somewhat stiff surface that pressing imparts; then perhaps pressed again, but this time without artificial heat. Various stretchings and dryings and mendings and beatings take place in the intervals of the

this process, as in dyeing, there is no possibility of changing the product very materially to meet shifts in demand. This is one reason why the style hazard in woolens and worsteds is so much greater than it is, for example, in cotton prints, which may be made in the gray in huge runs, and printed and finished at will.

The processes of dyeing and finishing woolens and worsteds in this country are conducted very largely by the mills which make the cloth. In and about Philadelphia there is a good deal of "outside" dyeing and finishing, but most of the mills in the Lawrence, Lowell, and Providence sections perform these services for themselves.

Processes of Worsted Manufacture

The manufacture of worsteds differs from the manufacture of woolens in the introduction of certain processes designed to comb the fibres and lay them straight in the yarn. Woolen fabrics are made to be fulled, and the aim in all the processes of their manufacture is to produce an open, soft cloth with high felting properties.

Worsteds, on the other hand, are fulled only slightly. Their strength and wearing properties depend upon the way in which the fibres are laid in the yarn, and not upon the fulling process after the cloth is made. In finished worsteds the yarns are clearly defined, and not felted. This statement is true as a general thing but must not be interpreted too literally. It is strictly true of the coarse worsteds which are made from long straight wools, with no curly fibre, and with the weave of the cloth perfectly plain at a glance. Some of the finer worsteds, however, are made of fine

more serious operations, and at last the work is done. Many types of woollen cloth, besides the fine broadcloths, are finished with a napped surface that conceals the weave. In their case the processes are less elaborate, and, at certain points, different from those just sketched, but their general character is similar. But in a large class of woollens and in all worsteds, to conceal the weave would be a defect." J. H. Clapham, *The Woollen and Worsted Industries*, pp. 72 and 73.

wools, with some curly fibres among them, and they frequently have high felting properties.[1]

This brief summary of the cardinal differences between the two products will be of service in attempting to make clear the commercial significance of the change in recent years from woolens to worsteds.

The chief successive steps in the manufacture of worsteds may be listed as follows:

1. Scouring
2. Carding
3. Gilling
4. Combing
5. Drawing
6. Spinning
7. Weaving
8. Dyeing
9. Finishing

It will be observed that these processes are the same as those used in the manufacture of woolens with the addition of gilling, combing, and drawing, which are introduced between carding and spinning. There are, however, some differences in the processes which are common to the two industries, particularly in the finishing process.[2] Nevertheless, as the modifications, though not slight, do not seriously affect the problems with which we are particularly concerned, it will be necessary only to give a brief description of the characteristic steps which are found in worsted, but not in woolen manufacturing.

[1] Semi-worsteds yarns used in knitting hosiery and in carpet weaving we shall not consider here. It is often difficult, without examination, to distinguish these from certain types of woolens.

[2] "Most fancy woollens and many worsted 'coatings' and 'trouserings' are more or less fulled, to give them strength and body, but the shrinking and felting are comparatively slight. Then, too, the raising of such cloths is not so serious an operation as in case of the woollen 'faced' cloths. It is carried out in a different way and with a different object. Worsteds are, as a rule, only slightly raised, since their close, firm texture would not allow of the rather drastic application of the teazle which some woollens undergo. And the raising of both woollens and worsteds of the type now under consideration is carried out while the fabric is dry. Its aim is to ruffle up loose fibres, which are subsequently cut off short by the cropping machine, the net result of the two processes being to show up rather than to conceal the weave. The nap is raised in order that it may be got rid of, not in order that it may be retained."— Clapham, *op. cit.*, pp. 73 and 74.

Gilling. Worsted wools are carded in a manner similar to carded wools, but not identical. One large card is used (breaker and finisher) and this is of somewhat different construction from the three sets used for carded wools. The sliver which comes from them is not as light nor as completely carded, but it need not be because of the additional treatment it undergoes.

Many of the fibres in the sliver coming from the worsted card are tangled and bent, and to straighten them out they are put through gill-boxes. These double together several slivers and draw them, and after this process has been repeated three or four times the material goes to the combs.

Combing. Most of the nearly 2000 combs reported by the census of 1910 as being in operation in this country are of the Noble type. Other types of English machine also are extensively used, and in recent years machines from Continental Europe have become more common than formerly.

In combing, drawing, and spinning worsted yarns two methods or systems are employed — the English or Bradford system, and the French system. The former is employed more commonly in the worsted mills of the United States and England, while the latter is the one used in mills in Continental Europe. However, in recent years the French system has been introduced in this country, and although it is to be found only in a few mills, it is there employed on a large scale.[1]

Although the French system is used in only a few plants some of the installations are very large. This is the only way the Continental (or French) system could have secured a foothold here against the English (or Bradford) system, for neither of these systems can replace the other without modifications of the succeeding (drawing) process and expensive adjustment of the plant into which it is introduced.

[1] *Report of the Tariff Board on Wool and Manufactures of Wool*, p. 1026.

The purpose of combing is to take out all the short fibres (noils) and to leave the long fibres all laid parallel and straight in a solid rope of fibre, perhaps three quarters of an inch thick, known as "tops." Most of the American worsted mills, particularly the larger ones, do their own combing. In this country there are four plants for combing exclusively, and these four plants operate 61 of the nearly 2000 combs in the country. There are American mills, however, which do a large business in tops and also comb on commission,[1] as is done by many English and Continental top-makers.[2]

The specialized, separate top industry is the rule rather than the exception in England and on the

[1] "All of the great and advanced facilities of the Arlington Mills are placed at the disposal of wool dealers and manufacturers who send their wool to the mills for combing on commission. They are allowed all of the advantages of the naphtha solvent process, which yields to them a larger amount of top from a given amount of wool than can be procured by any other process — and not only a larger amount of top, but top in better condition for successful drawing and spinning.

"This commission combing has become a large and constantly increasing factor in the business of the Arlington Mills. Any combing wool, including the grades used in the manufacture of carpet yarns, may be shipped to the mills, where it will be sorted, cleansed by the patent solvent process, and carded and combed with the same scrupulous care and high efficiency and economy that characterize the preparation of the Arlington wools. These facilities, possible only in a very great establishment, are offered to worsted spinners and dealers throughout the country. When wool is combed on commission the resultant products, including top, noils, and wastes, are returned to the owner. Such a low charge is made for this work that it is often more economical to send their wool to be combed as they require it than to install their own combing machinery.

"It is usually estimated that of the total cost of a worsted spinning plant, at least three-fifths represents the machinery requisite for the preliminary processes of preparing the wool for the spinning frame itself. The spinner who regularly utilizes the advantage of a great central combing plant like that of the Arlington Mills saves the fixed charges cost of a long holding of his raw materials."— *A Brief Outline of the Business of William Whitman & Co.*, 1910, pp. 41–42.

[2] Most of the tops used in Yorkshire are combed in about sixty top mills. Isaac Holden & Sons of Bradford, for example, operate two large top mills there, and one in Rheims, and one at Croix, near Roubaix, France. Their combined capacity is said to be equal to handling nearly half of the British Colonial wool passing through the London auction every year.— *Tops*, published by the Arlington Mills, 1898.

Continent, and there are highly organized top markets in which future-trading is conducted in various British and Continental worsted centers. In this country, however, most of the worsted mills were established with their own combing departments and still retain them.

Drawing. Five or six strands of tops are doubled together and drawn into a single "drawing," which is combined with other "drawings" to produce a "slubbing." Again, several "slubbings" (the number runs from two upward) are doubled together, and the combined strand is wound on a bobbin and called a "roving." The Bradford and French systems differ a good deal in the details of these processes. For example, in the Bradford system a twist is given to the rovings in the winding, while in the French system this is not done.

Dyeing. Worsted fabrics of the types we are considering are either piece-dyed, cross-dyed, or yarn-dyed.[1]

[1] William Whitman in *A Brief Outline of the Business of William Whitman & Co.*, pp. 29 and 30, describes the differences of some of these fabrics as follows:

"From the manufacturer's standpoint — that is, from the standpoint of one who considers the method of construction and the materials that go into the different fabrics — the Arlington Mills dress goods may be classified under three general heads: Piece-Dyed Fabrics, Cross-Dyed Fabrics, and Yarn-Dyed Fabrics.

"Piece-Dyed Fabrics are woven with the yarns (the separate threads that are wrought together to make the fabric) in their gray or natural state. They are then cleansed and dyed in the piece to such colors as are required. They are woven in plain weaves in a great variety of twills, stripes, and figures, all the way from a plain spot to an elaborate brocade. These fabrics may be made wholly of worsted yarns, or of worsted yarns in combination with cotton yarns, or of worsted yarns in combination with cotton yarns that have been put through the mercerizing process to look like silk, or of worsted yarns with silk yarns or wool yarns. The principal fabrics in this classification are: Imperial Serges, Storm Serges, Cheviots, Panamas, Veilings, Prunellas, Whipcords, Melroses, Poplins, Venetians, Coverts, Satins, Batistes, Taffetas, Voiles, Nun's Veiling, Canvases, Grenadines, Albatrosses, Crepes, Rainproof Cloths, Cashmeres, Silk-Warp Henriettas, and, in fact, an endless variety of plain and fancy suitings.

"Cross-Dyed Fabrics are woven with black or colored cotton warps — that is, the yarns or threads that run lengthwise in the fabrics — and wool or worsted filling — that is, the yarns or threads that run across the fabrics. After being woven, these fabrics are dyed in the

The piece-dyed fabrics are mainly staples, in which the style element is at a minimum, while the fancy fabrics are mainly yarn-dyed or cross-dyed. The importance of this fact is due to inalterable properties it imposes upon wool cloth, particularly in those lines in which design is the important element. Goods of this kind seldom can be refinished or made over to suit a change in style, nor can they be made up in the gray, and later dyed or finished to suit a style change. A quick shift in fashion may render worthless a substantial quantity of fabric before production can be stopped.

The remaining processes of worsted manufacture—spinning, weaving, dyeing and finishing—have numerous technical differences from the corresponding processes in woolen manufacture, but a description of them is not necessary in this discussion.

This brief and incomplete summary of some of the main steps in the manufacture of woolens and worsteds will help to make clear some of the generalizations which follow.

piece. The cotton does not take the wool dye, but retains its original color. This class of work is more generally used in what are known as Mohair, Alpaca, and Lustre fabrics. This process is adopted instead of subjecting the goods to a cotton-dye bath after being woven, because in this way the natural brilliancy of the Lustre wool, Mohair, or Alpaca in the filling is not impaired. The cotton-dye bath is liable to destroy the lustre, and for this reason a part of the goods — that is, the cotton portion — is dyed before the weaving takes place. The principal cross-dyed fabrics are Brilliantines, Alpacas, Mohairs, Florentines, Glaces, Cotton-Warp Taffetas, Batistes, Serges and Cashmeres, Crispettes, Fancy Lenos, Fancy Waistings, and Rainproof cloths. They have the same variety of weaves and patterns as have piece-dyed goods. The Arlington Mills have made a specialty of cross-dyed fabrics, which form a large part of their product.

"Yarn-Dyed Fabrics are woven from dyed yarns or from yarns spun from dyed wool. This process is particularly applicable to Shepherd Checks, Mixtures, Melanges, Fancy Checks and Plaids, and Fancy Cloakings and Suitings. The box loom is used in the manufacture of these cloths more than in other cloths. The desired effects can be produced in all-wool fabrics, or in fabrics made of a mixture of cotton and wool. The different effects, however, are obtained in this class of merchandise more through skilful variations of color and pattern than through changes in construction of the cloth.

"Staple Fabrics and Fancies, or Novelties, all fall within the above classification. They are either yarn-dyed, piece-dyed, or cross-dyed."

Some Features of the Machinery Supply

The most conspicuous fact about the American woolen and worsted industries, so far as their equipment is concerned, is that, at least until recently, they have been largely dependent on European sources. American woolen carding machinery is unsurpassed, and American carded-wool mules are widely used. In several lines American loom builders excel also. But a surprisingly large part of our equipment is imported. The Tariff Board brought out some important points in connection with the sources of woolen mill machinery, which are worth keeping in mind in any consideration of the ability of the American mills to compete with European competitors in staple and fancy products respectively. The Board secured data from 44 woolen and worsted mills in 15 states, operating about a quarter of the total number of looms in the country, one third of the combs, and 12.4 per cent of the spindles. Figures[1] from these plants showed the percentages of machinery of American and foreign manufacture to be as follows:

	American	Foreign
Scouring machines	55.2	44.8
Carding machines, woolen	92.2	7.8
Carding machines, worsted	50.3	49.7
Gill boxes (Bradford combing)	5.0	95.0
Gill boxes (French combing)	....	100.0
English drawing frames	10.9	89.1
French drawing frames	....	100.0
Spinning frames	8.4	91.6
Mules, carded wool	85.7	14.3
Mules, worsted	....	100.0
Weaving, looms	78.0	22.0

It is evident from these figures that, except for looms, woolen carding machines, and carded wool mules, (and in a less degree worsted cards and scouring machinery), American mills depend very largely on imported equipment. Some of the reasons for this appear in the

[1] *Tariff Board Report on Wool and Manufactures of Wool* (1911–12), p. 1042.

following letter to the Board from a manufacturer using American, English and German looms.

We weave the most intricate patterns and finest goods on our German looms. For the very best goods which we produce we could not use the looms which we bought in the United States. Some of our English looms are used especially for the weaving of high-grade fancy goods, and we consider them also better, for this purpose, than the American looms. The other English looms, and the American looms, are used for the weaving of less difficult goods, which we produce in large quantities. These looms are not at all adapted for the very fine goods. For these we must use German looms, which are absolutely unsurpassed for regularity of weaving. In equipping our plant we seriously thought of buying English looms in place of the American, because the American looms were very little cheaper, and we only decided in favor of the American looms because we wished to buy as much as we could from American manufacturers and because in case of need reserve parts could be more quickly obtained than by importing them from Europe.

The speed of the American and English looms is higher than that of the German looms, but the work which is done on the German looms requires accuracy and fineness more than speed, and requires great attention on the part of the operatives, so that the looms could not be run at such high speed. In case of an increase in the kind of work done on these looms, so that new looms were needed, they would have to be imported from Germany, as before, because looms suitable for that kind of work can not be obtained in this country.[1]

This last paragraph emphasizes the importance of the time element in the relation between selling and equipment problems. Increases in demand may be sudden. The installation of equipment for meeting them requires months.

Types of Labor

Labor problems introduce another factor in mill operation which has an important bearing on the mill's ability to adjust production to changes in demand. No figures show accurately the division between the types of labor employed. The skilled labor element is

[1] *Tariff Board Report*, p. 1044.

large, but in the production of staples there has been a development of automatic machinery in recent years which has increased the amount of semi-skilled labor and has permitted the employment of an increased number of Italian and South European immigrants. The figures quoted by the *Tariff Board Report*[1] show that the Italian and Southeastern and Eastern Europe groups make up one third of the total. For the skilled work, and in the manufacture of most of the novelty fabrics, high grade labor is still necessary.[2]

The effort at standardization of production, as reflected by ability to employ labor other than that which

[1] "In the establishments investigated, 12,799, or 36.5 per cent of the total number of persons employed, were born in the United States, and 22,230, or 63.5 per cent, were foreign born. Of the 22,230 foreign born, 12,297 persons, or 35.1 per cent of all of the employees in the mills, were natives of Italy and the countries of eastern and southeastern Europe. Great Britain and Ireland are represented by 4,427, or 12.7 per cent, of the wage earners; Canada, by 2,102, or 6.0 per cent; and Germany by 1,474, or 4.2 per cent. No other country is represented by so large a number of operatives." *Tariff Board Report*, p. 955.

[2] In the 44 mills studied by the Tariff Board the percentages of men and women out of a total of 30,454 employees, aside from weavers, was as follows:

	Males	Females
Total	56.9	43.1
Wool sorting	87.5	12.5
Wool scouring	98.3	1.7
Carding: Worsted	94.3	5.7
Woolen	85.9	14.1
Combing: Bradford system	67.4	32.6
French system	22.6	77.4
Drawing: Bradford system	28.3	71.7
French system	3.7	96.3
Frame Spinning	28.3	71.7
Mule Spinning: Worsted	50.1	49.9
Woolen	94.1	5.9
Winding	24.5	75.5
Spooling	3.8	96.2
Dressing	78.0	22.0
Weaving	57.8	42.2
Burling and mending	5.6	94.4
Finishing	97.7	2.3
Dyeing	100.0	....
Mechanical and general	98.9	1.1
Miscellaneous	71.7	28.3

(Exclusive of Weavers.)

Tariff Board Report, p. 996. Of the 5,728 weavers reported in these mills, 2,838 were females, and 2,890 males.

is highly skilled, apparently has gone surprisingly far in view of the large part which novelties play in the total output.

Efficiency of Labor

The process in cloth-making which best shows the impossibility of reducing production to a purely mechanical basis is the work of mending defective goods. Here we realize that on the mechanical side of cloth production the weak link is the frailty of yarn. If a single strand of either warp or filling breaks, human intelligence is called for before the process of production can be resumed or before the product is fit for commerce. The importance of this from a commercial point of view appears in two mill problems: (1) the cost of making repairs, and (2) the percentage of defective product. On these the *Tariff Board Report* makes two suggestive statements.

The first of these gives some idea of the number of burlers and menders necessary in proportion to the number of weavers employed:

> To correct the imperfections occurring in the different manufacturing processes, especially in weaving, 1,375 menders and 1,364 burlers were employed in the establishments investigated, together with 219 inspectors and 64 foremen and sub-foremen. Every yard of cloth produced by the 5,412 weavers operating the 12,337 looms was closely scrutinized, and the imperfections, so far as it was possible to do so, were remedied. The lumps and knots were removed by the burlers and the missing threads deftly sewed or woven in by hand by the menders, who, with a needle, follow the pattern through the thousands of ends. The total of weavers, looms, menders, and burlers shows that in all the mills there was an average of 1 mender to every 3.9 weavers, or 1 mender to 8.9 looms, and 1 burler to about every 9 looms. The proportion of burlers and menders to looms and weavers varies in establishments, depending to a great extent on the efficiency of the weavers.[1]

[1] "Manufacturers frequently make the statement that there are no perfect woolen or worsted fabrics woven. To correct weaving imper-

On the point of the percentage of the total product showing serious imperfections, the following figures from the *Tariff Board Report* are of interest:

The agents of the board inquired into the effect of imperfections on the sale of goods. From 16 establishments it was ascertained that of 62,540,014 yards of cloth made, 1,362,496 yards, or 2.18 per cent, were seconds or imperfectly woven goods, and had to be sold at prices below those of the regular goods. The seconds do not, however, represent all of the goods made which have to be sold below the regular prices. There are also remnants, shorts, patchwork, and waste. Remnants are cut from pieces having imperfections. In enumerating the losses of this class of goods and others, one establishment reported that —

In the manufacture of goods for the men's wear trade there are large quantities of goods returned on account of the failure to sell them on the part of our customers, the goods being returned under some subterfuge of alleged imperfections, imperfect dyeing, etc., which frequently have to be sold at a heavy loss, as they are not returned until late in the season. By careful estimate on goods returned for the past three years, we find that about 20 per cent of our production is returned in this way, upon which we estimate our loss as being 10 per cent, equaling a net loss of 2 per cent on our entire production from this cause. There is also a loss on

fections to some extent, an electric warp stop motion, a loom attachment, is in use in many establishments.

"Its working is described by a mill superintendent as follows:

"Weavers running two looms equipped with electric warp stop motions can not produce as many yards as they could with two looms not equipped with these warp stop motions, because the instant the warp thread breaks, the warp stop motion stops the loom.

"If the weaver is working at one loom and a warp thread breaks on the second loom, that stops and remains standing until he finishes working on the first loom and turns to the second one to tie in the broken thread.

"Whereas, if the looms were not equipped with this warp stop motion, the second loom would continue to run when the warp thread broke until the weaver saw the break.

"At the time he discovered this break the loom may have woven several inches, which would have an imperfection in it.

"This broken warp thread that was not woven in would have to be sewed in by hand by a girl in the sewing room.

"While these warp stop motions retard the production, they increase the quality of the goods produced, and at the same time reduce the cost of sewing, as the goods produced are nearly perfect, as far as the weaving is concerned."—*Tariff Board Report*, pp. 1075 and 1076.

goods which are set aside as seconds, when they come through the finishing department, owing to imperfect weaving, dyeing, etc., which have to be sold at reduced figures, which, together with claims allowed for imperfections while goods are in the hands of consumers, equal approximately 2 per cent of the gross amount of production.

In an establishment manufacturing dress goods the percentage of the seconds yardage was as follows:

Worsted goods, No. 1, 1.01 per cent.
Worsted goods, No. 2, 2.28 per cent.
Wool goods, No. 1, 2.50 per cent.
Wool goods, No. 2, 4.50 per cent.

These are the percentages of the yardage of whole pieces made seconds and do not include allowances for imperfections or remnants cut from pieces for imperfections.[1]

[1] *Tariff Board Report*, p. 1078. The *Report* also contains the following figures:

"From another establishment having a large output records of perfect and imperfect yardage for six months ending in 1910 and for six months ending in 1911 were obtained.

"Omitting the number of yards included in each group the percentage of perfect goods, seconds, shorts, remnants, and patchwork, together with the proportion sold at less than regular prices, are shown in the following:

Six months ending 1910

	Worsted Goods		All-Wool Goods	
	Per cent of product	Prices obtained	Per cent of product	Prices obtained
Perfects	95.43	Sold at regular prices	89.52	Sold at regular prices
Seconds	2.02	10% less than regular prices	5.44	10% less than regular prices
Shorts	1.07	10% less than regular prices	2.78	10% less than regular prices
Remnants	1.22	26 cents per yard	1.92	35.75 cents per yard
Patchwork	.66	20.52 cents per pound	.34	34 cents per pound

Six months ending first half of 1911

	Worsted Goods		All-Wool Goods	
	Per cent of product	Prices obtained	Per cent of product	Prices obtained
Perfects	94.88	Sold at regular prices	91.22	Sold at regular prices
Seconds	2.02	Sold at 10% less than regular prices	3.69	10% less than regular prices
Shorts	1.13	Sold at 10% less than regular prices	2.73	10% less than regular prices
Remnants	1.58	21.75 cents per yard	1.94	35.25 cents per yard
Patchwork	.39	17.02 cents per pound	.42	18.02 cents per pound

"In the foregoing the remnants and patchwork are contracted for each six months, the price obtained for remnants being per yard and that for patchwork being by the pound."

This question of imperfections is one of the most troublesome of the mill's commercial problems. Practically no goods can be made in which some imperfection cannot be alleged. With the increased amount of contract buying by cutters there has come to be recognized a necessity for some standards of practice by which the line between commercially perfect and commercially imperfect goods may be drawn. Otherwise the mill cannot, without arbitration or law suit, enforce any contract, if the cutter chooses to repudiate it on the ground of defective goods. Nor can the cutter, without litigation, avoid being obliged to take defective goods, if the mill chooses to undertake to force delivery.

In addition to the question of ability to avoid defects in product, another labor problem is important, namely, the ability of American labor to compete with European labor on the basis of net cost. A summary of the *Tariff Board* figures on this point will be found in the succeeding chapter.

The efficiency of the American textile operatives is a matter over which it is possible to wrangle indefinitely without profit. There seems to be no satisfactory basis for comparison between American and European operatives from which safe generalization can be drawn.[1] The Tariff Board, after compiling figures on the efficiency of individual weavers from a large number of mills, seems able to settle only in general terms upon the factors which make for and against highly efficient production in the weave sheds.

One mill owner writes as follows:

> We do not know that the difference in the efficiency of weavers is any greater than the difference between individuals in any occupation. It is, of course, largely a guess, but in our weave room we would estimate that of the factors

[1] The *Tariff Board Report* contains some elaborate tables showing the efficiency of weavers in the mills examined by them (pp. 1082–1217).

you mention perhaps 5 per cent of the difference in efficiency is due to differences in the looms, 20 per cent to difference in yarns, and fully 75 per cent to the weaver himself. We have selected six examples from the loom cards, illustrating the difference in weavers on the same work. Looms 42 and 46 are identical in pattern and age, the weavers both female, the hours practically the same, and the goods identical. One weaver wove 108 yards in 34½ hours, and the other 90½ yards in 34 hours.

Looms 49 and 50 are adjacent and identical, the weavers working in the same alley. The card of loom 49 gives the weight of the goods as 16.5, but this is a mistake, as it should be 14.5, the same as loom 50. These cards are therefore absolutely identical so far as conditions are concerned, yet weaver 49 wove 121 yards in the same time as No. 50 was working on 109 yards.

Looms 14 and 15 are also identical and the goods the same range, though different styles. Different colored yarns are different in strength, so, in these cases there might possibly be a difference in quality to account for part of the difference in production (109½ yards in 34 hours against 77½ yards in 34½ hours). As a matter of fact, however, there can have been but little difference between the two styles, and the greater part of the 25 per cent difference in efficiency is undoubtedly due to the difference in the weavers.

Now we are well acquainted with the six weavers mentioned above and the results are precisely what we would expect, and would be very similar in the course of a year's work. The differences were not due to accidental or unusual cases, but to differences in the temperament of the weavers.

As to what is wrong with the inefficient weavers, it is hard to say definitely. It is not necessarily due to laziness nor anything discreditable to the weaver. For instance one of the inefficient weavers mentioned above is a woman of excellent character, conscientious to a marked degree, of German parents, ambitious, and hard working. These very good qualities seem to make her a comparatively poor weaver. She is too careful. The one who is compared with her is no more honest or faithful, but will turn off more and better work. The good weaver is one who, in the phrase of the weave room "keeps his belt on the tight pulley"; in other words, keeps his loom running. He will, when pos-

sible, change shuttles without stopping the loom. Some weavers are not able to learn to do this successfully. If he finds it necessary to stop the loom to put in a broken thread, he will do only what is absolutely necessary, then start his loom, and complete the work while it is running. The other weaver will complete the work before starting the loom, making a few seconds difference. It is not a question of quick motions. One of the best weavers we have is a man of very slow, almost sluggish, motions. One of the poorest we ever had was a nervous, quick-motioned man. The first made every move count; the second made three unnecessary moves to one that was useful. We believe the same types will be found anywhere in any line of work.[1]

After all the factors have been duly allowed for, it appears that the differences between weavers are mainly individual.

Summary

In summary it might be said that American manufacturers of woolens and worsteds in the main have followed the lead of the corresponding industries in Europe. The chief exceptions are in carding machinery for woolen goods and mules for the production of carded wool. While this statement concerning methods and equipment is generally true, it is also true that American mills and American machinery builders have made many valuable contributions in the way of improvements in machines and improvements in mill construction, mill organization, and mill policy.

In the matter of labor it seems to be beyond dispute that the American mill-hand compares in skill and efficiency quite satisfactorily with corresponding labor in the mills of England and North Europe. The increased standardization of equipment and manufacturing methods in the production of certain staple goods has made it possible, in some of these lines, to employ in recent years more low-

[1] *Tariff Board Report*, pp. 1072 and 1073.

grade labor from south-eastern Europe than previously. It yet remains to be demonstrated how this labor working in connection with certain improvements in machinery and in mill organization will compare with the corresponding labor of the countries with whose product American woolens and worsteds compete.

CHAPTER VI

INTERACTION BETWEEN MILL AND SELLING PROBLEMS

IN the preceding chapter an attempt has been made to point out a few of the problems of cloth manufacture which have an important commercial bearing on cloth selling. These, it will be observed, are concerned only with the structure of the fabric. They are essentially mill problems.

The problems connected with the design of the cloth have to do, as will be more fully shown in later chapters, partly with forming public demand, and partly with meeting it after it is formed. While the problems of cloth structure are primarily concerned with the processes of manufacturing, the problems of design are concerned quite as much with sale as with production. Between these two groups there is a continuous process of interaction and adjustment. A change in the character or direction of public taste is met by a corresponding alteration in the character of production. This in turn may involve a shift in the emphasis on various factors in production. Such a shift may, and frequently does result in an important modification of the mill's administration and policy.

It is some such series of adjustments as this, for example, that must be considered in seeking a satisfactory explanation of such phenomena as the high degree of localization in the worsted industry, the decrease of small, and the rise of large woolen mills, the dominance of large worsted mills, and the present conditions in the matter of specialized production.

Changes in Character of Product

The change in the character of the product to meet shifts in public demand is the most obvious of the steps in this series of adjustments. One manufacturer, writing to the Tariff Board, gives a concrete example of this when he discusses the increased use of broad looms and explains some of the reasons for the increased width of fabrics. He says:

There has been quite a change from narrow looms to wide ones. We have thrown out a good many narrow looms simply because wider goods were wanted.

Over 50 per cent of the dresses, probably from 60 to 70 per cent, of the dresses worn by ladies are bought made up. The dress goods jobbers in the Missouri Valley two and a half years ago were very much wrought up over their loss in the dress-goods trade, and they were arranging for the establishment of dressmaking schools at different centers along the Missouri Valley, the idea being to teach women to dressmake free of charge, the only condition being that they locate along the Missouri Valley. They claimed it was very difficult to have dresses made, and if they had some smart people along the district they might stimulate the dress-goods business. But it was simply a stemming of the tide. The made-up garment has come to stay, and for this reason: The woman in the country, although she may be a good dressmaker, is not in touch with the styles. Now, the woman in the country who has been tied up to a country dressmaker feels ashamed when she visits the city and sees the nice styles — she knows she is a country woman. But what she does now is this: Instead of having her dress made up she buys it when she is in the city, and her suit is then as good as the best of them. Some women are poor judges of how material can be made up. The average woman is afraid to get away from her brown, or navy blue, or black; but when she goes to the store and sees the suits she will try one on and take it even if it is of a color she would never risk before.

The cutters who make these ready-to-wear garments or made-to-order suits use 50, 54 and 56 inch goods which have to be made on the broad looms. So that is why this modern method of making suits has had something to do with the

use of the broad looms, because the country requires wide goods. Twenty years ago we had a thousand looms on Jacquard that would weave goods 32 inches wide. The demand has absolutely gone. The cloth that is wanted now for dress goods must be from 40 to 56 inches wide, and the cutter rarely takes anything less than 50 inches.[1]

This change to wider fabrics is partly due to the fact that the cutting of patterns by machinery can be done better from these wider fabrics. It is also attributed to the increased public demand for "all wool" fabrics which for some reason not clear are made wide, chiefly in what are known as "6/4" widths.

Another change in the character of product due to changes in public taste is to be found in the lighter weight of fabrics now made, compared with those which were common a few years ago. Heated cars and trains, steam heated apartments, and revised ideas of hygiene all have had their part in reducing the average weight of cloths produced. Men's suitings, which a few years ago were mainly between 12 and 16 ounces to the yard, are now mainly from 8 to 12. Men's overcoatings, which formerly ran from 16 to 20 ounces, now seldom run over 16 and more often run as low as 12 ounces.[2]

It is generally agreed that a similar change has been wrought in women's fabrics. The better draping effects possible with these lighter fabrics has been an added influence in bringing about this change in the case of this line. None of these changes is accurately reflected by figures, but a number of persons conspicuous in the industry who were interviewed agreed with the commission merchant who said: "In wool and worsted dress goods the weights have been reduced from 30 to 50 per cent in fifteen years."

In these two illustrations — the change in importance of wide fabrics and the decrease in average

[1] *Tariff Board Report on Wool and Manufactures of Wool*, p. 1044.
[2] Interviews.

weights — we find two examples of change in the structure of fabrics (quite aside from the changes in design) which indicate some of the ways in which mill problems and selling problems are bound together.

It is not necessary at this point to dwell on the style risks in the matter of design and the manufacturing problems which grow out of them. These will be discussed later.[1] Here it will suffice to point out the fact that in addition to a constant shifting of public taste within the novelty trade itself, there frequently is a complete shift from one or another type of novelty to some type of the more staple fabric. Serges, for example, may be abnormally popular for a season, or broadcloths may suddenly "come back." Therefore, while there is a sharp difference between the staple and the fancy types of product in the degree of interdependence of their producing and selling problems, even the most conservative of staples is not wholly free from the influence of style risks and the effects of these on production.

The way in which changes in the character of a product can change the emphasis in the mill problem becomes clear when we recognize the fact that in staples the commercial emphasis is on volume, while in fancy products the emphasis is on the other elements such as speed of sale, and the covering of style risk. There is, perhaps, no better illustration of how "volume" becomes the important element in the sale of a staple than is to be found in the case of a certain American Woolen Company product known generally as "Fulton 3192," from its long-standing number in their list of designs. This fabric is a standard serge weighing 11 ounces to the yard, made always of one type of yarn (2—40s) spun from half-blood wool. It is a fabric of known and fixed content. Its production has run over a long series of seasons and the demand for it always is

[1] *Infra*, ch. XII.

large. It has come to be regarded as a standard of reference in the trade. Its price, as announced by the American Woolen Company when it opens its season's lines, is widely accepted as virtually this Company's estimate of what the sum of the cost of wool, manufacturing cost, and a minimum mill profit is to be for the season. Competition in this line is so keen, and production methods have been so standardized, that "volume" becomes the only basis for profit in its production. The emphasis in selling is all placed on securing large orders and these necessarily must be taken at prices which mean careful purchase of wool, efficient production of cloth, and a minimum of profit. For such a fabric there would be every advantage in a plant which would have the typical American characteristics — automatic machinery, high division of labor, and every facility for attaining a large volume of output at a minimum of production cost. It involves also selling facilities capable of handling large quantities at high speed and without waste.

In sharp contrast with this, is the necessary practice in handling novelty fabrics.[1] When these lines are "opened," their price is in no sense regarded as having a direct relation to costs. The great problem in selling is speed, for the goods must be sold while they are popular. The mill problem involves ability to meet sudden and erratic demands, while avoiding the two great dangers, that of not being able to deliver goods when ordered, and that of being caught with goods on hand when the demand fails. In this type of mill problem, the emphasis is seen to be entirely different from that in the production of staple products. The wide use of automatic machinery is not feasible, volume is a secondary consideration, and production costs are not under excessive downward pressure. The selling

[1] The process by which designs are worked out will be discussed in chapters XII and XIII.

problem is concerned with getting and keeping a reputation for skill in design and freshness of patterns rather than in paring down costs.

Localization and Large Scale Production

These contrasts between the selling problems for these two types of cloth have a bearing not merely on cloth production alone. They serve also to explain some otherwise obscure features in such problems of mill administration as are involved in localization, scale of operation, specialization, and relations to selling houses.

Woolen mills, as we have seen, are somewhat more localized about a few centers than they formerly were. But it is noteworthy that woolen mills are still in operation in practically every state in the Union. Two of the chief causes of such localization of woolen mills as exist about Lawrence, Philadelphia, and Providence are the fluid labor supply and ease of access to the cloth and wool marketing centers. The woolen mills thus localized are mainly those producing staples or such types of fancy goods as can be made in large runs. This branch of woolen manufacture is of the large-scale type. Most of the smaller and more remote woolen mills are blanket mills or similar plants many of which are producing for a local market. Certain cloth mills, however, which specialize in fancy fabrics also have been successful in small-scale operation at points removed from these great mill centers.

In worsted production, even more than in the case of staple woolens, the influence of the large output is seen. Here again, the concentrated localization is chiefly about Lawrence, Providence, and Philadelphia.

In the scale of operation the same contrasting influences are seen to be at work. In the woolen goods industry with its smaller proportionate yardage of staples, the average value of product per plant in 1909

was $182,485, compared with an average product value per plant of $964,891 in the worsted industry. In the census of 1900 the figure for worsted plants was $640,000 and for woolen plants $114,000, showing that the rate of increase has been much more rapid in worsteds than in woolens.[1] Examination of the following table makes clear the connection between the scale of operation and the nature of the two great groups of product, staples and novelties. For example, by comparing the yardage of worsted serges and the other chief worsted items with the yardage of woolens having the largest totals, and by observing how many more groups of products are necessary for listing woolen mill products than worsteds, it is easier to understand why large-volume plants have so much more important a place in the worsted than in the woolen industry.[2]

	1909			
	Woolen Industry		Worsted Industry	
	Sq. yd. (millions)	Value (millions)	Sq. yd. (millions)	Value (millions)
All wool —				
Wool cloth and men's wear	35.1	$24.5	5.7	$4.7
Worsted coatings, serges and suitings — men's wear	5.	4.3	114.5	97.5
Woolen overcoatings, cloakings, etc., men's or women's wear	13.6	10.2	1.	1.
Worsted overcoatings and cloakings. Men's or women's wear	.1	.2	.4	.5
Wool dress goods etc., opera and similar flannels and similar all wool dress goods	25.5	13.7	3.5	2.6
Worsted dress goods, cashmeres, etc., for women's wear and buntings	1.9	1.1	103.8	52.
Carriage cloths	1.2	.6	.....	....
Flannels for underwear	3.3	.9	.....	....
Blankets	4.4	2.5	.....	....
Mohair dress goods	....	....	.3	.1
All other all wool	.9	.5	1.8	1.3

[1] Thirteenth Census, vol. x, p. 100.

[2] Condensed from tables in *Tariff Board Report*, pp. 224–225, and 230–231.

	1909			
	Woolen Industry		Worsted Industry	
	Sq. yd. (millions)	Value (millions)	Sq. yd. (millions)	Value (millions)
Cotton mixed woven goods —				
Cotton mixed woven goods total — all types	....	....	3.6	1.6
Union tweeds, cassimeres, cheviots, etc. for men's wear	15.3	6.2	....	....
Overcoatings and cloakings	4.2	2.3	....	....
Sackings, tricots, dress goods for women's wear and opera and similar flannels	4.2	1.7	....	....
Flannels for underwear	7.	1.3	....	....
Blankets	1.7	.6	....	....
All other woolen mill products —cotton mixed woven goods	1.1	.4	....	....
Cotton warp, woven goods —				
Wool filled cassimeres, doeskins, jeans, tweeds, etc., for men's wear	44.	11.	1.1	.8
Worsted filled cassimeres doeskins, jeans, tweeds, etc., for men's wear	3.3	1.2	25.9	13.7
Wool filled dress goods and similar goods and repellants	12.2	2.5	....	....
Wool filled overcoatings and cloakings	1.9	3.9	....	....
Worsted filled dress goods delaines, cashmeres, etc., and other stuffs for women's wear	....	....	64.4	14.5
Domett flannels and shirtings	4.5	.9	....	....
Cotton warp blankets	8.9	2.5	....	....
Horse blankets	4.1	1.6	....	....
Carriage robes	2.8	1.3	....	....
All other cotton warp goods	8.1	1.3	1.9	.7

Specialization in Production

The same distinction between the problems of staple goods production and novelty production has its effect upon specialization. This phase of the American woolen and worsted industries was discussed in detail recently by Prof. L. D. H. Weld of Yale University. His previous connection with the census gave him familiarity with many of the details of the subject.[1]

Concerning specialization in the two industries Prof. Weld says:

[1] *Quarterly Journal of Economics*, November, 1912, pp. 67–94.

One reason that has been urged for the combination of all processes in woolen mills is that when they were first established in this country, they were necessarily so far apart, and transportation facilities were so poor, each mill was obliged to perform every step. But the absence of any tendency toward subdivision of processes to-day, when there are a hundred woolen mills in Massachusetts alone, indicates the weakness of this explanation. The fact is that woolen weaving mills are practically forced to do their own spinning because standardization of woolen yarns is impossible and hence there is no need of their being near to other mills. In the worsted manufacture, on the other hand, where the product of one set of mills becomes the raw material of another, there is ample reason why they should be concentrated within small areas.

Conclusive as this reasoning may be for the non-existence of specialized wool spinning, it does not sufficiently account for the separation of spinning and weaving in the worsted branch. Even though worsted yarns are capable of standardization, this fact would not prevent their being made in a combined mill.[1]

Professor Weld gives as reasons for the specialization in the worsted industry: the greater technical difficulty of worsted spinning which tends to make it an industry separate from weaving, the large capital necessary for machinery and material in process, and the great variety of yarns used in worsted weaving. In addition to these he points out the fact that many American worsted mills were formerly woolen mills, and that when they took up the new line of production, it was simpler for them to buy yarns rather than to re-equip their spinning plants. All these reasons are important, but when they are considered from the standpoint of the two commercial types of mill product, staples and specialties, it is clearly seen that the staple mills have strong inducement to integrate, while the mills making fabrics in which the style element is large, have every inducement to specialize.

International competition, as well as domestic, is largely dependent on the character of the commercial

[1] *Quarterly Journal of Economics*, November, 1912, p. 87.

problems. On the one hand, American mills producing mainly staple goods have, in a large measure, developed standardized, large-scale production. This has made possible the employment of an increased amount of unskilled or semi-skilled labor, and reductions in other production costs. To a certain extent this specialized, large-scale operation has also simplified and cheapened the selling process. Thus, American mills have been able to compete with European mills which, though little different in equipment and operating practice, such as routing of work and speed of machines, pay less wages per piece for approximately similar grades of cloth.

In this connection the *Tariff Board Report* (p. 710) says:

> In general, it may be said that the fabrics of high value have a relatively high conversion cost. There are, of course, individual exceptions to this general statement, but they are not of sufficient importance to materially affect the case. Consequently, if the purpose of legislation be to adjust duties so far as possible to relative labor or conversion costs, this can now best be done, so far as woolen and worsted fabrics are concerned, by assessing ad valorem rates and have them vary with the value of the fabric. A system of graduated duties, increasing regularly with different increments of value, could be made equitably to equalize the difference in the cost of production on the more expensive fabrics without placing prohibitory rates on fabrics of lower grade.[1]

American mills specializing in fancy goods, on the other hand, are to a certain extent deprived of the advantages of those lines of inventive skill in which Americans have been most successful, standardization and large-scale operation. In the production of fancy goods, short runs, skilled labor, and, in a measure, small units of production, are characteristic. American makers of

[1] An elaborate discussion of comparative costs in American and European mills will be found in the *Tariff Board Report on Wool and Manufactures of Wool*, part iii, secs. 1 and 2.

fancy cloth, therefore, are obliged to depend less upon improved organization and more upon purely commercial factors in meeting European competition than is the case with makers of staple cloths.

The price of such goods of the fancy types as are sold under sharply competitive conditions has a close relation to the costs of production. In this class of goods the tariff has played, and still does play, an important part in preventing large importations of English and other European cloth. For those types of novelty fabric, however, in the sale of which the design is the main factor, the relation between the cost of production and the price to the consumer is less intimate. Thus the ability of the American mills to compete with European mills in these goods apparently depends on their ability to establish a reputation as designers. In the sale of highly fashionable fancy goods the tariff is less useful as an equalizer of competitive conditions than it is in the case of goods in which the relation between the cost of production and the final selling price is closer.[1]

There is no adequate statement in detail of the relative efficiency of American and European operatives which covers the ground in the woolen and worsted field.[2] Some valuable points are brought out, however, in the *Tariff Board Report.* In summarizing the relative costs of manufacturing woolen and worsted yarns and cloth in the United States compared with similar costs in Europe, the *Report*[3] declares that "taking the industry as a whole, the American manufacturer practically has no advantage in efficiency of

[1] A more detailed consideration of the problem of competition between American and imported cloths will be found in ch. viii *infra.*

[2] This has been well done in the cotton industry by Professor M. T. Copeland, in his *Cotton Manufacturing Industry of the United States,* ch. xvii.

[3] *Tariff Board Report of Wool and Manufacturers of Wool,* pp. 15-16. See also *Bulletin of National Association of Wool Manufacturers,* March 1909, pp. 152-182.

labor and equipment over his foreign competitor although this statement is subject to exceptions in the case of particular processes at particular mills. On certain specialties the largest and most efficient American mills are able by skillful organization materially to reduce the difference in cost."

The main elements of the cost of production considered by the Board in making its summary were the cost of plant, material and labor. They estimated that the cost of erecting and equipping a woolen mill in the United States was about 45% greater than in England, and that for a worsted mill the difference was somewhat more on account of the tariff on the larger percentage of foreign machinery used. Concerning the differences in labor the report shows that not only are wages higher in this country, but that labor costs on the whole are higher also. The Board points out the fact that in this particular group of industries the high wages are not in general offset by any particular advantage or by any marked superiority in the efficiency of labor. The *Report* contains the statement that in the European centers the supply of labor which has been trained for generations in these industries is so large as to constitute, in some instances, a distinct advantage to the European mill. In the United States, on the other hand, a considerable portion of the labor is found to be of unskilled immigrants, and in certain centers "this population is of a very fluctuating kind, and the manufacturer is obliged continually to break in a new set of inexperienced operatives."

CHAPTER VII

THE ORGANIZATION AND METHODS OF THE SELLING HOUSE

THE peculiar form which the connections between American textile mills and selling houses have taken is attributable very largely to historical influences. The introduction of power machinery into the textile industries of the country[1] made a new draft on capital. This new capital was needed for covering the cost of materials in process and finished goods unsold, and for the extension of the necessary credits to customers. Capital was available from but one domestic source—the merchants. Most of these were mainly engaged in doing an import and export business. This trade was seriously curtailed by the Napoleonic War and the American Embargo and War. This interference made the merchants glad of new openings for safe and profitable investment of their capital. This change was further accelerated by the succeeding periods of financial stringency.

This transfer of capital from foreign trade to the mills, accompanied by a change from dealing in imported to dealing in domestic fabrics, took place first in the cotton industry. By the time woolen manufacturing became large enough to need this service such transfers of capital had become a not uncommon method of financing mills.

The Separation of Selling from Production

In addition to calling for more capital, the introduction of power machinery soon led to a situation in

[1] Cotton spinning 1791, cotton weaving 1814, woolen spinning 1814, woolen weaving 1828.

which it was evident that at that stage cloth production was a business so complicated as not to be combined successfully with selling. These historical influences adequately account, not only for the form of the relation existing between mills and selling houses, but also for the large volume of American textiles sold by the mills through these houses.

We find the first recorded instance of this type of relationship between mill and selling house in the case of Samuel Slater and his partners, when Slater began spinning cotton on power frames near Providence in 1791. Moses Brown, a retired merchant, had formed a partnership [1] sometime prior to December 1789 with William Almy, his son-in-law (also a merchant), to engage in cotton manufacturing. The letter of December 10, 1789 in which Moses Brown sought to secure the services of Samuel Slater to install a water frame for the concern [2] led to the formation of the firm of Almy, Brown & Slater in April 1790 to operate the equipment which Slater was to set up. The document under which this firm was established contained the following clause:

> It is also to be understood, that, whatever is advanced by the said Almy and Brown, either for the said Slater, or to carry on his part of the business, is to be repaid them with interest thereon, for which purpose they are to receive all the yarn that may be made, the one half of which on their own account, and the other half they are to receive and dispose of, on account of the said Slater, the net proceeds of which they are to credit him, towards their advance, and stocking his part of the works, so that the business may go forward.[3]

The Almy & Brown concern also had a controlling interest in at least one other mill — that at Norwich, R. I.[4] They sold the output of these mills, and some

[1] W. R. Bagnall, *Textile Industries*, pp. 146 and 153.

[2] George S. White, *Memoir of Samuel Slater*, pp. 72–75.

[3] *Ibid.*, p. 75.

[4] W. R. Bagnall, *Textile Industries*, p. 164.

other products, through agents in various cities. The following advertisement from a Portsmouth, N. H., newspaper of 1802 gives an idea of their methods of doing business:

COTTON YARN

Almy & Brown, Providence, State of Rhode Island, being principally concerned in the most extensive Cotton Mills on the Continent, have for sale a large assortment of Cotton Yarn suitable for Warp or Filling, and also of Two and Three Threaded Yarn, suitable for knitting or weaving Stockings, of equal quality to any in America; they are enabled to supply their customers, and others who may want, on as low terms as any person in the United States, and on short notice.

Orders from every part of the Country will be duly attended to by addressing by post, or otherwise, to the subscribers. Almy & Brown.

Providence, *March*, 1802.

N. B. They have likewise for sale Candle-wicks of superior quality, of which Tallow Chandlers and others may be supplied with any quantity. The above may be had in any quantity, and at the same prices as at the Manufactory, of Nathan D. Folsom, next door to Mr. Brierly, Spring Hill, Portsmouth.[1]

Another advertisement taken from a Boston newspaper of 1809 indicates that by that time weaving (on hand looms of course) was being done on account of Almy & Brown, if not actually in their factories.

FACTORY COTTON AND THREAD STORE

No. 26 Court Street, opposite Concert Hall

George Connell, Agent for Almy & Brown, of Providence and Pawtucket Manufactories, has now for sale from eight to ten thousand weight of yarn, for weaving, from No. 5 to 30, Knitting, two and three threads, from No. 5 to 36 white, black, blue and slate; three thousand yards of cloth, such as Checks, Stripes, Chambrays, Ginghams, Bedticks, Shirting and Sheeting Cotton, etc.; five hundred pounds Cotton Thread, in hanks, from No. 12 to 60, of a

[1] W. R. Bagnall, *Textile Industries*, p. 163.

superior quality and very white. Also, a great variety of other Cottons for working, embroidering, netting for making of fringes, tattan, cord, etc. May 30, 1809.[1]

The relationship existing between this mill and this selling company apparently was the type which took the place of the older form of selling agency. This older type, illustrated by the connection of Elisha Colt with the Hartford Manufactory in 1794,[2] consisted usually of simple sale on consignment. That method answered the purpose well enough as long as the markets for the mills were near by and the competition was against either household products or imported goods and not against other domestic mills.

Another instance, showing by what natural steps a merchant first invested in a mill and then became involved in disposing of its product, is found in the case of Nathan Appleton, a retired merchant who became a partner in the Boston Manufacturing Company in 1813. The company bought a water-power in Waltham, Mass., and started a cotton mill. In the following year (1814) Francis C. Lowell, one of the partners in the company, completed a power loom which he had built from such knowledge as he could glean concerning British power looms then still in an unperfected stage.

Mr. Appleton, himself, tells how he became a cotton-mill commission merchant:

> After the peace in 1815, I formed a new copartnership with Mr. Benjamin C. Ward. I put in the capital for the purpose of importing British goods, with the understanding that I was not to perform any part of the labor of carrying on the business. I was content with a moderate fortune, but not willing to disconnect myself entirely from business. An accidental circumstance occasioned the continuance of this copartnership until 1830.
>
> At the time when the Waltham Company first began to produce cloth there was but one place in Boston at which domestic goods were sold. This was at a shop in Cornhill

[1] W. R. Bagnall, *op cit.*, p. 164.

[2] *Supra*, ch. I.

kept by Mr. Isaac Bowers, or rather by Mrs. Isaac Bowers. As there was at this time only one loom in operation, the quantity accumulating was not very great. However, Mr. Lowell said to me one day that there was one difficulty which he had not apprehended, the goods would not sell. We went together to see Mrs. Bowers. She said everybody praised the goods, and no objection was made to the price, but still they made no sales. I told Mr. Lowell, the next time they sent a parcel of the goods to town to send them to the store of B. C. Ward & Co., and I would see what could be done. The article first made at Waltham was precisely the article of which a large portion of the manufacture of the country has continued to consist: a heavy sheeting of No. 14 yarn, 37 inches wide, 44 picks to the inch, and weighing something less than three yards to the pound.

That it was so well suited to the public demand was matter of accident. At that time it was supposed no quantity of cottons could be sold without being bleached; and the idea was to imitate the yard wide goods of India, with which the country was then largely supplied. Mr. Lowell informed me that he would be satisfied with twenty-five cents the yard for the goods, although the nominal price was higher. I soon found a purchaser in Mr. Forsaith an auctioneer, who sold them at auction at once, at something over thirty cents. We continued to sell them at auction with little variation of the price. This circumstance led to B. C. Ward & Co. becoming permanently the selling agents. In the first instance I found an interesting and agreeable occupation in paying attention to the sales, and made up the first account with a charge of one per cent. commission, not as an adequate mercantile commission, but satisfactory under the circumstances. This rate of commission was continued, and finally became the established rate, under the great increase of the manufacture. Thus, what was at the commencement rather unreasonably low, became when the amount of annual sale, concentrated in single houses, amounted to millions of dollars, a desirable and profitable business.[1]

This connection between the mill and the selling house became more complex a few years later when designing was added to the other services rendered by the selling house for the mill.

[1] Nathan Appleton, *Introduction of the Power Loom, and Origin of Lowell*, pp. 11 and 12.

In 1828 an arrangement was made by which Mr. J. W. Paige came into the selling agency on the retirement of Mr. Ward from the firm; and it is not too much to say, that to his skill and good judgment the Company is greatly indebted for its success. This office combined with it the preparation of the patterns under a regular designer, and carried with it a commission of 1¼ per cent.[1]

How One Selling House Developed

The history of the firm of A. & A. Lawrence, of Boston serves as a connecting link between the development of selling houses for cotton-mill products and the growth of outlets for woolen mills. It serves, also, to tie together the period of beginnings and the period of active growth in the woolen industry.

In 1807 Amos Lawrence, aged 21, and with $20 capital, came to Boston, rented a shop in Cornhill, and "filled it with drygoods obtained on credit." [2] In the following year he was joind by his brother Abbott, and later (1814) the two brothers formed the firm of A. & A. Lawrence.

"When I commenced," says Amos Lawrence, "the embargo had just been laid, and with such restrictions on trade that many were induced to leave it. But I felt great confidence that, by industry, economy, and integrity, I could get a living; and the experiment showed that I was right. Most of the young men who commenced at that period failed by spending too much money, and using credit too freely.[3]

The business seems to have prospered, and Amos Lawrence writes as follows in his diary, concerning the formation of the partnership with his brother.

"I took my brother Abbott into partnership on equal shares, putting fifty thousand dollars, that I had then earned, into the concern. Three days afterward, the 'Bramble

[1] Nathan Appleton, *op. cit.*, p. 27.

[2] Freeman Hunt, *Lives of American Merchants*, vol. ii, p. 246.

[3] *Ibid.*, p. 249.

News' came, by which the excessive high price of goods was knocked down. Our stock was then large, and had cost a high price. He was in great anguish, considering himself a bankrupt for at least five thousand dollars. I cheered him by offering to cancel our copartnership, give him up his note, and, at the end of the year, pay him five thousand dollars.[1]

The firm survived the war of 1812–1815 and still contrived to make money. Upon the signing of peace in 1815 they set actively about restoring their business of importing cotton goods.[2] Under the tariffs of 1816 and 1824 the firm became leaders as importers of both cottons and woolens.

The history of this concern differs from many others in that its serious interest in domestic textiles did not come as a result of the bad trading conditions and the consequent desire to find new investment during the period of European wars from 1807 to 1815, but as a result of the depressions of 1830 and 1837. In 1830 the Merrimack Company of Lowell in common with many English and American cotton mills found itself cramped, and during this period of depression the Lawrences became interested in the Lowell mills.[3]

The next panic (1837) left the Lawrences still with capital and credit unimpaired, although their business now was mainly in handling domestic, rather than foreign fabrics. They had capital to invest in new

[1] Hunt, *op. cit.*, p. 256.

[2] *Ibid.*, pp. 257–261.

[3] "In 1829 a violent commercial revulsion took place both in Europe and this country. It was especially felt by the cotton manufacturers in England, and several establishments in this country, operating with insufficient capital, were prostrated. The Merrimack Manufacturing Company made no dividend that year. During this period of depression, Messrs. Amos and Abbott Lawrence were induced by some tempting reduction in the terms made by the Proprietors of the Locks and Canals, to enter largely into the business; the consequence of which was the establishment of the Suffolk, Tremont and Lawrence Companies, in 1830." Nathan Appleton, *Introduction of the Power Loom and Origin of Lowell*, p. 29.

enterprises, and there were four Lawrence brothers [1] among the founders of the Merrimack Power Association which in 1845 took the first steps leading to the founding of Lawrence, Mass. They were largely interested in establishing the Atlantic Mills (1849) and the Pacific Mills (1853), two of the most important mills in the country.[2]

A generation later, commission houses were practically in their present form. They no longer grew out of importing merchant houses but were established with the purpose of taking on mill accounts at the very outset. Capital was available and experience in handling domestic fabrics could be acquired in existing houses. A. A. Lawrence, the son of Amos, tells of the formation of the firm of Mason & Lawrence in two terse entries in his diary:

> May 18, 1843. Robert Mason and myself have decided to make a partnership and run for luck to get the Cocheco Company!
>
> May 26. The Directors of the Cocheco Company voted to give their business to Mason & Lawrence to-day. I have spoken for some signs and written to Robert to come on here.[3]

This young man had learned the dry goods commission business with Almy, Patterson & Co., and his business experience previous to this "run for luck," was three years as a commission merchant for broadcloths, cassimeres and silks, in Boston, from 1836 to 1839.[4] The fact that an inexperienced young man could make a success of such a connection indicates

[1] Two other Lawrence brothers, William and Samuel, had started an importing business in 1823, and had become interested in domestic goods in 1825. About that date they were instrumental in the formation of the Middlesex Company of Lowell, Mass., the first company incorporated to manufacture woolen goods there. Freeman Hunt, *Lives of American Merchants*, p. 372.

[2] H. A. Hill, *Memoir of Abbott Lawrence*, pp. 23–26.

[3] William Lawrence, *Life of Amos A. Lawrence*, p. 50.

[4] *Ibid.*, p. 30.

that by 1843 the selling of domestic textiles probably was not as hazardous, nor as difficult, as it had been even a few years earlier.

The Work of the Selling House

The textile selling-house or, as it is more commonly known, the commission house of the present day is difficult to describe with accuracy. Perhaps no two houses are alike in all particulars, and in some cases a single house will have in effect at one time several types of arrangement with the various mills it serves. This variation in work and in organization is so great as to be quite baffling to a layman. It apparently is due largely to historical influences. But it is attributable in part to the individual nature of the agreements entered into between the selling house and its clients, the mills.

The history of the commission house gives the best explanation of the large amount of inter-ownership which now prevails. At least one Boston commission house makes it a rule to have effective representation in the control of each mill for which it sells. A certain Boston house has one member who is treasurer of three of the mills for which it sells, while another member holds the same position in three other mills. In another Boston house one member of the firm is treasurer of one mill, director of a second and a large stockholder of a third.

With this intimate connection between the selling house and the mill it is not surprising to find that the banking service is sometimes quite as important as the selling work of the selling house. This banking service takes various forms. The most common are: (1) indorsement of the mill's paper, (2) guarantee of the mill's accounts, (3) direct advances of money.

(1) The indorsement of the mill's paper is the most common form of financial assistance given to mills by

commission houses. An estimate generally accepted is that at least two-thirds of the textile mills of New England get this form of help regularly. Formerly Boston banks required a commission house's endorsement on the paper of all except a very few mills. A charge of from 1 to 2½ per cent is made for this service when rendered for the mill by the commission house.

(2) The commission house sometimes guarantees the accounts of the mill with its customers. They indorse the paper of the buyers if necessary and make it possible for the mill to get money from the banks on orders in process. For this service a charge of 2 to 2½ per cent is made.

Moreover, it is not uncommon for the commission house, in addition to guaranteeing the accounts of a mill, to "cash the sales." In other words, the commission house bills the product to the various customers and on the due dates pays the mill whether the customer pays them or not. In the case of cotton yarn, which is mostly sold with a discount on the 10th of the month following date of bill, the commission house would remit for the entire previous month's sales.

(3) Direct advances of money are quite common in the case of southern cotton mills, and to some extent they are still part of the commission houses' relations with mills in New England.

In recent years this service has been undertaken extensively by banking houses which make a specialty of rendering this service either for mills or for selling agents. Such houses are conspicuous figures in textile circles in New York and New England. A common form of transaction of this type is for the bank or commission house to advance, say, 75 per cent of the value of the mill's product, taking title to the product as security. The goods are made in the regular way and are then sold by the mill. All bills, however, are issued in the name of the bankers, and collections are made by

them. This gives the bankers ample security, and leaves with the mill complete control of its producing and selling operations, although it is not legally owner of the goods it makes.

In the case of cotton goods of a staple type such a transaction as this is simple and has little to do with the salability of the goods. It may safely be assumed that the goods can be sold if made. But where the element of style is conspicuous, as is the case with many cottons and most woolen and worsted piece goods it is far less simple. For goods of this character the commercial hazards and the financial risks are so closely related that they are more satisfactorily conducted by one concern. Goods of this kind are the chief stronghold of that form of commission house which renders for the mill a combined selling and banking service.

The selling services, like the banking services, vary widely. At one extreme is the simple process of disposing of goods on consignment. At the other is the virtually complete planning of all the selling operations of the mill. The services, however, may be divided for purposes of description into three main groups: (1) designing, (2) selling, and (3) collecting.

(1) In some cases all of the work of gathering style information and working it out in fabric designs is assumed by the commission house. Designs, with specifications, are sent to the mill, which makes up sample "blankets" and submits its estimate of the price at which the goods can be delivered to the selling house. The designs which are to be incorporated into the season's lines are then chosen; and the selling house sends out its salesmen with samples.

(2) The selling of woolen and worsted cloths is conducted partly from sales rooms, maintained by the selling house usually in New York City, and partly through salesmen sent out to cover the wholesale and

cutting trades.[1] The customers are mainly large manufacturers of clothing, wholesale houses, jobbers, and a few large department stores.

(3) The seasonal nature of the market and the increase of contract and other forms of large-scale selling have made it necessary for the selling house in many cases to carry its customers until they can realize on their purchases. The collection of accounts, therefore, is an important part of the work. Sales are commonly dated April 1, and October 1, for the light-weight and heavy-weight seasons respectively, and the usual terms are 2 off ten, and net 60.[2] A 6 per cent discount sometimes is given for payment made before the two dates mentioned. The commission house collects from the buyer and either remits to the mill, less charges, or remits all and then bills the mill for commissions.

There is no fixed practice about the amount of commissions, however. The commission usually charged for selling staple goods is about 2 per cent. But when the lines are seasonal and involve heavy style risk, the commission may be as high as 5 per cent. In different mills the percentage varies on the same goods. A mill which is a good bargainer can sometimes secure a better rate than a poorer trader can get. It seems to depend on various elements, chiefly the difficulty and expense of selling, and "what the traffic will bear." The commission is always based on the actual selling price, however, and therefore there is always an incentive to the commission house to get top prices.

The Recent Development of Selling Agencies

With the increasing size of mills the selling agency has in some cases taken the place of the commission

[1] *Infra,* chs. xiii and xiv.

[2] A net price is quoted on condition of payment within 60 days. An extra discount of 2 per cent will be allowed for payment within 10 days.

house. Briefly, the distinction between the two is that the agency usually is financed by the mill and performs the selling operations on an agency basis rather than as a regular commission house. The control of selling operations, in other words, is kept in the hands of the mill. This form of operation is open to small mills if enough of them get together, but in the main it is a method applicable to large operations.

Some houses combine a selling agency for large mills with a merchant business and commission selling for small mills. William Whitman Company, Inc. (formerly Wm. Whitman & Co.), for example, are the selling agents for worsted dress goods, worsted men's wear fabrics and specialties, worsted tops, worsted yarns, combed cotton yarns and mercerized yarns, made by the Arlington Mills of Lawrence, Mass. They also are selling agents for combed cotton yarns made by the Manomet Mills and the Nonquitt Spinning Company of New Bedford, Mass., and the fine cotton cloths made by Nashawena Mills of New Bedford. At the same time they act as selling agents "for a number of smaller cotton cloth and cotton yarn mills." As merchants, too, they "purchase outright and distribute the products of a large number of other cotton mills." The volume of business done through this one house is stated by them as follows:

> The quantity of fabric woven each year is impressive but it measures only a part of the business. In addition to cloth the firm markets large quantities of worsted yarn, of cotton yarn, and of the semi-manufactured article known as "tops"— wool combed and fully prepared for the spinner. The output of yarns and tops, most of which are sold to other manufacturers of textiles, even exceeds the output of cloth in point of value.
>
> The yearly consumption of the wools and cottons converted into these diversified products is in excess of one hundred and seventy-five million pounds. The wool that is used in a year is equivalent to about one-sixth of the entire wool clip of the United States. The fleeces of thirty-three

thousand sheep are consumed in the manufacturing operations of a single day. Forty-four mills of the capacity of the Arlington Mills alone could absorb the wool product of the entire world. The cotton used each year, in number of pounds, is even greater than the corresponding quantity of wool.[1]

The business of this concern is organized into six separate departments: (1) dress goods, (2) worsted yarn, (3) cotton yarn, (4) printed goods, (5) gray goods, (6) men's wear. These departments are all operated as highly specialized separate businesses under centralized control.

The American Woolen Company

The American Woolen Company, as a combination of over 30 companies operating more than 50 mills, some of which are extremely large, has a selling problem somewhat different from that of any of the separate mills.

The selling organization of this company is centered in New York City, and most of the salesmen operate from here exclusively. The physical equipment consists of ample sales rooms so arranged as to make examination and purchase of cloth easy and agreeable. The Company operates local offices with resident representatives in Boston, Philadelphia, Chicago, and Cincinnati.

For sales purposes the country is divided roughly into four main parts: (1) The buyers in the West and South do most of their buying upon personal visits to New York. Salesmen go among them for re-orders in some cases, but the heavy end of the business is through sale in New York City.

(2) There is a northern circuit roughly comprising the country accessible by the New York Central lines. This, of course, includes the great cutting centers like Rochester, Cleveland, and Chicago.

[1] *A Brief Outline of the Business of William Whitman & Co.*, 1910, pp. 21 and 22.

(3) There is a second circuit which roughly corresponds with the territory reached by the Pennsylvania Railroad and its connections. This includes Philadelphia, Pittsburgh, Cincinnati, and St. Louis.

(4) The New England portion of the market, lying close to the Company's larger mills, is covered partly from New York and partly from the Boston office.

Much more important than this division of the market geographically, is the division by classification of fabrics. The selling operations of the Company are conducted through seven separate departments and each is operated, commercially speaking, as a separate business. Each has its own sales room, its own staff of floor salesmen and road salesmen. While they all work together there is a high degree of specialization in the respective sales operations of each. The names of these departments are accurately descriptive.

(1) Staple worsteds and semi-staple worsteds. This department handles such lines as serges and those other worsted products whose manufacture is standardized, and in the sale of which volume is the big problem.

(2) Fancy worsteds: medium and low grade. This department, it will be observed, shades off from that just named, combining with its cutters' trade a certain amount of tailoring trade and department store business.

(3) Fancy worsteds: medium and fine. This, of course, includes the worsted trade in those lines where the style element is most conspicuous.

(4) Woolens, staple and fancy.

(5) Women's wear.

(6) Specialties: uniform cloth, shoe cloth, auto and carriage cloth, etc.

(7) Blankets: bed and army.

Each department has its head, with one or more assistants, its own mill connections and its own sales staff. In those departments where it is possible and desirable there are also stylers employed. Much

valuable help in styling is received from the road reports of salesmen, and in some departments salesmen are in off seasons used as stylers in working out new designs.

This division, geographically and by departments, is of course quite similar to what a commission house aims at in taking on supplementary mills and covering specialized territory. But the American Woolen Company's organization is remarkable in the completeness of its lines, the wide area included in its market and the skill with which it has minimized overlapping, duplication, and gaps in its sales efforts.

The great variety of the products of the Company's mills also makes possible an evening-up of the season's sales curve. The staple business, for example, is ordinarily fairly even. But in the heavy-weight goods, department number 2 usually shows its greatest activity earlier in the season than either departments 3, 4, or 5, while department 3 (medium and fine worsteds) is the last to reach its maximum business.

Location of Selling Houses

Philadelphia and Boston were formerly conspicuous centers for selling houses, and some of the large concerns still preserve their home offices in one of these cities. Since about 1850, however, New York has been the chief cloth market of the country. The main reason for this is probably the growth of the cutting trades, although other causes have been the reorganization of the dry goods jobbing trade, the growth of large-scale retailing, and the centralizing of style influences.

A recent directory of the textile industries[1] contains a list of "manufacturers' selling agents and dry goods commission houses in the principal cities of the United States." The list covers 30 cities, but in most

[1] *Official American Textile Directory*, 1914, pp. 545–570.

of them the only concerns listed are either branches of large houses whose headquarters are elsewhere, or selling agencies of local mills. Only four cities show lists of any length, and even in these the classification of firms is not very detailed. A count of the names of firms indicated as handling woolen or worsted goods, subdivided into general types, yields the following table:

City	Woolens and worsteds alone	Woolens and worsteds combined withother lines	Sales offices of woolen and worsted mills	Branches of houses whose head offices are elsewhere	Head offices of houses with branches in various cities	Houses handling both imported and domestic woolens and worsteds
New York ...	179	39	5	14	3	14
Boston	29	8	4	2	4	..
Philadelphia ..	14	3	3	2	..	..
Chicago	3	5	6	..	..	..

An examination of the names in this list gives an idea of the variety of types of the selling house, and the elaborate character of some of them. For example, the firm of Wm. Iselin & Co. is entered as a dry goods commission house. The New York list also contains the names of ten houses, each under a separate name, designated as "annexes" of the Iselin Company, five others designated as "departments" of this company, and four others for which the Iselins act as "factors." This makes a total of 19 concerns connected with this one house. Of these there are four which handle woolens and worsteds. Frederick Almy & Co., and Frieze, Cone & Co., are classed as annexes, and for H. M. Kennedy, Jr. & Co., and A. L. Levy, the Iselins act as factors. The other houses handle numerous lines, including silks, hosiery, laces, embroideries, velvets, ribbons and ramie underwear. Again, the house of Schefer, Schramm & Vogel has 19 firms in New York which are designated as departments, or for which the concern acts as factor. Three

of these sell woolens and worsteds. H. A. Caesar & Co. have 13 tributary houses of this kind; Passavant & Co., 9; James Talcott, 7; L. F. Dommerich & Co., 8; and there are several others similarly organized. Houses of this sort are in reality collections of separately operated houses gathered about a central concern which devotes most of its attention to the banking end of the business.

Another common form of organization for a selling house is that of a parent house with branches. In the case of some of these, the parent offices are in Boston, although most of the selling may be done through New York sales-rooms. The general direction of the work of all the branches is conducted from the head office.

Summary

Selling departments and agencies have, in a number of instances, displaced the older form of selling house, particularly in the case of the larger mill companies. Moreover, there is at present an increased amount of distribution on contract to clothing manufacturers and by direct sale to retailers. These facts have given point to the question occasionally discussed as to whether the selling house of the old commission type is not doomed to an early extinction. Already, as has been shown, many large mills and large contracting buyers have found it better to absorb some of the functions of the selling houses than to continue to work through them.

The future of the selling house is a field of prophecy into which it could not be profitable at this time to venture far. If the selling house were unable or unwilling to adjust itself to new conditions, it would inevitably become a minor factor in the handling of woolens and worsteds, provided the present developments in those industries continued. But the uncertain element in any prophecy is the degree of adapt-

ability which these houses can develop. They have the reputation, as a whole, of being conservative and slow to change; nevertheless the variations which exist in their forms and methods of work indicate that at least in the past they have not been unduly hampered by traditions. Some of them, indeed, have shown great acumen in following new developments, and a high degree of ingenuity in meeting them. Such concerns may be expected to continue a profitable business in some form as long as there are small, or even medium-sized mills or wholesale buyers.

CHAPTER VIII

IMPORTED FABRICS

TO the American textile industries the problems presented by the prejudices and habits of the American cloth consumer are quite as serious as are the more frequently discussed problems growing out of competition against the "pauper labor" of European mills. These prejudices and habits are as old as the industry itself. Arthur Scholfield, one of the pioneers in the American woolen industry, encountered this difficulty in an acute form, if we are to accept the account of Thaddeus Clapp. He tells[1] of the selling troubles of the Scholfield mill in Pittsfield, Mass. Scholfield in 1804 tried in vain to sell to the merchants of his village some of the gray mixed broadcloth which he had made. "A few weeks subsequently," says Mr. Clapp, "Josiah Bissell, a leading merchant in town, made a voyage to New York for the purpose of buying goods, and brought home two pieces of Scholfield's cloth which were purchased for the foreign article. Scholfield was sent for to test the quality, and soon exhibited to the merchant his private marks on the same cloth which he had before rejected."

Scholfield's experience with the tradition in favor of imported cloths is repeated on a magnified scale every season. American cloths of fine quality are still, in the mind of the consumer, at a disadvantage with European products, grade for grade. Competition between American and European fine fancy textiles, therefore, is not merely a matter of comparative costs

[1] Bagnall's *American Textile Industry*, p. 260.

of production; there is a marketing handicap on the American product.

In the case of staple products, made and sold in huge quantities, the situation is essentially different. The increase in the importance of contract and other large-scale sales manifestly must have a direct bearing on the import trade problem.

These differences between the competitive problems of fancy and staple products make hazardous any sweeping generalization about the import trade in woolens and worsteds. One general fact, however, seems to be well established, and appears materially to affect American competition with European fabrics. That is the fact that, at least until recent years, the American woolen and worsted industries were not fully assimilated to the American environment. Most of the machinery, most of the operatives, most of the heads of concerns, and most of the ideas came from Europe, and particularly from England.[1]

It will be useful in any attempt to understand the course of competition between domestic and imported fabrics to keep this situation in mind.

The Course of the Import Trade

Between the year 1852 and 1898 the value of the woolen and worsted fabrics imported into the United States went below $20,000,000 in only two years. The year 1862, after the outbreak of the Civil War, was the first instance, and the second was the year 1894, immediately prior to the enactment of the Wilson Tariff Law. During this period the value of these imports was more often above $30,000,000 than below that figure, and in each of the years 1866, 1872, and 1890 the value of these imports was over $50,000,000. The maximum figure in the history of the import trade in woolens was reached in 1866, when the total

[1] See address by Charles H. Harding quoted in ch. ii.

was nearly $58,000,000. Between 1898 and 1913 the value of these imports exceeded $20,000,000 only in the years 1906, 1907 and 1910. In the tables from the census previously given[1] the figures for the value of the products of the American woolen and worsted industry show that the period of slow growth of the industry corresponds quite closely with the period of large imports, while the decade of most rapid development, 1900–10, corresponds with the years when imports were seriously restricted.

Since the reduction of the tariff in 1913 there has been some increase in the importation of woolen and worsted fabrics, but the war conditions in Europe have substantially modified the normal course of this trade.

Furthermore, it will be observed that the period of reduced importation coincides with the attainment, by the worsted branch of these industries, of its present ability to produce medium and cheap worsteds of superior quality. This ability has been traced, it will be remembered, to the introduction of large scale operations and the development of thoroughly modern types of factory equipment by some of the highly centralized worsted manufacturing concerns.

The Tariff Change of 1913

After the passage of the Simmons-Underwood Law in 1913, it was anticipated that there would be an enormous increase in the importations of foreign woolens and worsteds.[2] It is quite possible that if the war had not begun when it did this prediction would have come true. As nearly as one can judge from the available figures, it appears that there has

[1] See ch. i.

[2] The Simmons-Underwood tariff removed the duty on wool and the compensating cloth duties and virtually cut in half the ad valorem protective duties on woolen and worsted fabrics. Most cloths, knit fabrics, etc., under this Act pay a duty of 35% ad valorem.

been a distinct and continued increase in the importation of high grades of worsted fabrics. In the medium and cheaper grades of worsted fabrics, particularly those of the standardized types, there was a distinct increase in importation immediately after the reduction of the tariff, but this increase did not continue.

The Simmons-Underwood Act was passed on October 3, 1913, and became effective so far as fabrics were concerned January 1, 1914. Sales for the spring season of 1914, therefore, could be made by the representatives of European houses for delivery under the new tariff. As soon as the samples of the European houses were exhibited, *The New York Journal of Commerce* and other trade papers began to question whether some of the medium-grade European fabrics which were offered in competition with the corresponding American lines had the intrinsic merit that the American goods possessed. *The Journal of Commerce* described in the following terms a set of tests which it undertook for the purpose of establishing this point:

> With a view of getting at the bottom of the matter three of the best constructed serges made in England, which cost between 58 cents and 65 cents landed here under a 35 per cent duty, freights, commissions and other charges included, were imported in order to make comparisons. One of the leading American serges that cost 72 cents regular was used in the tests that were made, and the results obtained were most favorable for the American product. The tests were severe ones. They are thus described:
>
> "The first test these four samples were put to was to place them in bottles containing a solution of 49 parts water and one of ammonia. The color was soon extracted from the foreign cloths, while the American withstood the test splendidly. The second test was to boil out the samples by the process known as the government soap boil. From a dark navy shade the three foreign cloths changed to a pale lilac, while the American remained unchanged. Under press

cloths the three foreign serges discolored the cotton press cloth badly, while the American showed just the slightest propensity to fade. The foreign goods shrunk to such an extent that the loss in shrinkage was estimated to be equivalent to six cents a yard. These tests may be considered extreme, but as the goods used were representative of what foreign and domestic mills were offering, the tests proved the American fabrics superior in every way to those made abroad."[1]

Instances of a similar character were reported from a number of sources. The *Daily Trade Record* of New York, for example,[2] said:

In this country a mill specializes on serges and is successful in putting them out in a uniform state. It is known from the start-off who is going to weave them, who is going to dye them, who is going to finish them. Not so abroad. If any considerable quantity of serges are purchased in Bradford, for instance, the first shipment may be made by one mill, the second shipment by another mill, and the third shipment by still another mill, so that in this way there is no opportunity for them to run uniform. If there is one thing in the textile business that is purchased on confidence, reputation, and experience, it is serges. This very fact militates against serges of foreign make selling freely in this country, under the circumstances, and as they are subjected to the most rigid tests there is little opportunity for them here.

Winthrop L. Marvin, Secretary of the National Association of Wool Manufactures, after quoting these and other American papers,[3] cites a number of instances indicating that the large buyers of fabrics for ready-to-wear clothing manufacturers were very quick to discover the fact that imported fabrics were not necessarily better for the use of the American cutting industries than American fabrics of corresponding

[1] *Bulletin of the National Association of Wool Manufacturers*, July 1914, pp. 273–274.

[2] *Daily Trade Record*, July 3, 1914.

[3] *Bulletin of the National Association of Wool Manufacturers*, July 1914, pp. 272–280.

grade, if, indeed, they were as good. Apparently for the first time the cutters realized that in recent years American manufacturers of medium grade woolen and worsted fabrics had achieved an ability to produce fabrics of this type which at least the first offerings of their foreign competitors could not equal.

The situation which is reflected by these quotations concerning the conditions following the reduced tariff of 1913 contrasts strikingly with the status of the New York woolen and worsted market in 1895 after the Wilson Law had been in effect for a corresponding period of time. A contemporary report of the earlier experience is of interest.

Domestic manufacturers "have not been able to secure any improvement in price corresponding to the rise in raw material, and have had to face a demand seriously interfered with by the severe competition of foreign goods, of which importations have been largely in excess of the preceding year. When the light weight season opened a number of sellers endeavored to secure an advance in their first quotations, but, as a rule, such efforts simply checked buying, and there was, in most instances, a prompt return to the prices of the preceding season. In one or two departments, such as clay worsteds and high grade fancies, gains in value were actually made as the spring season progressed, but on the general run of merchandise the tendency was mostly against sellers.[1]"

The same report calls attention to the fact that the diversion from staple to fancy products had been marked during the year, and that two of the staple woolen lines, henriettas and cashmeres, had felt the brunt of foreign competition.

An examination of the methods of doing business in 1895 compared with the methods in 1914 makes it clear that large-scale buying has become a much more conspicuous feature of the trade in medium and low grade staple fabrics.

[1] *Annual Report of the New York Chamber of Commerce* (1895), vol. 38, p. 92.

In the light of this change the quotations which have been given raise an extremely interesting question: Is it possible that the present organization of American trade in piece goods of this type has created a handicap upon the importation of medium and low grade fabrics produced in Continental and English mills? This is a feature of the tariff problem which hitherto has not been adequately appreciated.

The Prejudice in Favor of Imported Fabrics

For the higher grades of goods the peculiarities of fashion still give imported fabrics an advantage. Even in these lines there is evidence that American mills have developed a high degree of skill in fabric production. There are many high grade fabrics being produced in this country which are the equal in actual structure of the corresponding imported fabrics. In two respects, however, the American manufacturer of the high grade woolens is at a disadvantage compared with his foreign competitor. The first is in the matter of skill in design combined with ability to coöperate with the originators of fashion, and the second is the deep-rooted prejudice in favor of imported goods which is characteristic of high grade markets in every country.

Whatever advances may have been made in this country in the way of skilful mechanical production, it seems to be beyond dispute that our advance in industrial art has not been equal to that of some European countries. This is not merely true of woolen and worsted fabrics, but it is true in connection with fabric design of all kinds and also in connection with skill in the development of dye stuffs. Even after this lack of progress in industrial art has been acknowledged it should be said that this condition is not necessarily a permanent one, and it is quite conceivable that, following the progress in mechanical methods in at least certain types of fabric,

there may come substantial advance in what may be called the higher forms of fabric making.

Temporarily at least, the prejudices of consumers in favor of imported fabrics constitute a serious obstacle to the development of the production of high grade fabrics made in this country and sold on their merits. Just at present it appears that it is to the interest of at least certain portions of the textile trade to encourage rather than to break down this prejudice. It is more profitable, for example, at least for the time being, to sell high-grade American fabrics as imported fabrics than it is to sell them on the basis of their own reputation.[1]

In the long run, of course, it would be to the interest of mills to build up this business in high grade fabrics by establishing the reputation of the mill as a producer of high-grade goods, but this has been proved by experiment to be a long and expensive process. There is an immediate advantage in selling these goods as imported fabrics, thus turning to direct account the consumer's prejudice in favor of European goods.

This prejudice in favor of imported goods is kept alive and encouraged by a number of different interests, not the least among which are the importers themselves.

The Organization of the Cloth Importing Trade

During the period when imports of woolen and worsted fabrics were heavy the import trade in these lines was largely in the hands of the general dry-goods

[1] "A manufacturer of fine men's wear satisfied himself by a personal investigation years ago that it was fruitless for him to try to market certain very high-priced and very high-grade suitings by insisting that the goods should be sold to the ultimate consumer as the product of his mills. He found tailors and jobbers to the trade who would not handle the goods as domestics, but who would be glad to handle them if they were allowed to sell them in their own way, which was to represent them and dispose of them as imported goods."— *New York Journal of Commerce*, March 6, 1914.

jobbing houses in the eastern cities, chiefly New York. The importing of foreign textiles, particularly woolens, was the nucleus of the business of many houses of this type. The decline of these imports is one of the factors in the decay of the general jobbing houses in the eastern markets.

Most of the imports of woolen and worsted fabrics now enter through New York. The importing houses in New York may be classed in two principal groups: (1) American importing houses which make a specialty of bringing in foreign fabrics either as a separate business or in connection with the sale of domestic fabrics, and (2) New York branches or agencies maintained by European manufacturers. A few of the large wholesale houses do a certain amount of importing on their own account, but the volume of business done through concerns of the two types mentioned is now more important relatively than the business done by the wholesale houses.

The department stores and some of the large manufacturers of ready-to-wear clothing both for men and women have undertaken to do direct importing on their own account. The number of department stores which actually maintain an independent buying organization in Europe continuously is small. The greater part of the direct buying by department stores is done through buying syndicates which maintain elaborate organizations in Europe. Most of these confine their business to purchasing for a few large houses which are able to use substantial quantities of foreign goods.[1] These syndicates, as a rule, carry on most of their operations in the large manufacturing centers such as Manchester, for the products of northern England, Chemnitz for German-knit products, Paris, Berlin, and Vienna for novelty and fancy fabrics. Most of their purchases are made through brokers and com-

[1] *New York Journal of Commerce*, October 3, 1913.

paratively few of them buy their goods directly from the mills or have goods made for them by mills on their own orders or designs.

When trade resumes its normal course after the war, it seems at least possible that attempts to buy more directly than heretofore may be forced upon those retail stores which, either independently or in syndicates, have undertaken to do buying abroad.

Under present conditions many buyers operating abroad make their purchases at second hand, from commissaries, or jobbers, or other functionaries in trade who do not contract with mills and who are unknown to mills save in a most indirect way. The retail syndicates of this country, as purchasers, are large and important enough to attract the attention of mill agents, and those of them that are able to finance large purchases and are in good credit are able to secure terms direct from mills that are not always accorded to jobbers. In fact, the purchases of some of the domestic retail syndicates are more important than the bills of many jobbers to mill representatives.[1]

It is declared that comparatively few European manufacturers are willing to send goods here on consignment even to the best retail stores. They insist upon cash before delivery in many cases. This is said to have been modified somewhat by the willingness of some of the American importers to make special concessions to large retailers in order to get profitable business to off-set the general decline in the volume of trade they were doing through the jobbing houses.

This group of conditions has led to a suggestion of the possibility of forming a syndicate of from fifty to one hundred stores of moderate size to enter into connections with some experienced importer who would have facilities for forming direct connections with European mills. This situation and the modification of the existing methods of trading which it involves

[1] *New York Journal of Commerce*, October 3, 1913.

serve to illustrate the point that existing methods of trading may generally be regarded as in process of readjustment to the new conditions.

Possibilities of an Export Trade in Fabrics

The United States has never been able to develop any substantial export trade in woolen and worsted fabrics. The reasons for this are numerous. Some of the principal ones were thus stated in a public address by Edward D. Page of the firm of Faulkner, Page & Co., dry goods commission merchants:

> Except in a few fabrics, woolen goods are made of a blend or mixture of wools. Foreign wools are mixed with domestic to produce a proper blend and in exportation they are therefore deprived of any drawback privilege, even supposing some to be so. And so when the American market fails, as it does every two or three years, to consume the full product of American mills, it is impossible to keep machinery moving by accepting export orders. Mills have to run part time, labor can be only partly paid, or obliged to float about from mill to mill to obtain promise of full employment. These causes combined, as every manufacturer knows, will often increase the cost of manufacturing 10 or 20 per cent over the cost of making the same or similar goods in mills where a full production and permanent employment of help are assured.
>
> We have proved in the manufacture, unhampered by any such restrictions, of coarse cotton goods, whose product can be sold in all the markets of the world, and on full employment of labor thus secured, in these fabrics; I say we have proved, in spite of higher wages paid here, that we can manufacture economically enough to successfully compete with the products of the cheapest labor of foreign lands.[1]

The conditions which Mr. Page here outlines were substantially modified by the free wool tariff of 1913, but the perturbed conditions of the world's commerce have made it impossible for trade to pursue a normal course, and no one can say what might have happened

[1] *New York Journal of Commerce*, May 9, 1913.

by this time under conditions of peace. It is noteworthy, however, that a number of the best American manufacturers of woolen and worsted goods have seriously considered the possibility of undertaking to build up an export trade in piece goods, not only in the markets not conspicuous in wool manufacture, but in Europe itself.

The *New York Journal of Commerce* for February 24, 1914, gives in some detail an account of a sale to Paris cloth jobbers of fancy worsted fabrics made in a New Jersey mill. While there are as yet no figures to show it, there is good reason to believe that several American manufacturers, quite aside from war orders, have been selling considerable quantities of piece goods in Europe during the past two years. It would not be surprising if some of the connections thus formed under abnormal conditions should lead to permanent export trade.

In this study of imported fabrics, there is no intention of entering the controversy which has gone on so long over the tariff on wool manufactures. Few of those having views on this subject have ever changed their minds or ever will. It seems wise, however, after a careful reading of much printed material on the wool schedule, to raise the point whether, in constructing tariffs, the commercial aspects of the industries ought not to be given adequate consideration, in addition to the problems of raw material and factory costs.

CHAPTER IX

THE PLACE OF THE DRY GOODS JOBBING TRADE IN THE DISTRIBUTION OF WOOL TEXTILES

THE growth of the ready-to-wear business and the rise of department stores were two of the most important influences bringing about the recent changes in the methods of wholesaling dry goods. There were, however, other influences which should be noted.

The rise of important trading centers in the west and southwest which accompanied the general westward and southward spread of population would probably have brought about great changes in distributing methods even if there had been no other disturbing factors. These developments drew the jobbing business away from New York just at the time when the decline in imports weakened the incentive to stay.

The complicated subdivision of types of woolen and worsted fabrics makes it impossible to give any except general figures as to the relative proportions of importations and domestic production. But it may be said that practically all of the medium and low-grade lines consumed in this country are made here, and that while a much smaller percentage of the high-grade lines is of American manufacture the quantity is large, and has greatly increased since 1894.[1]

A brief statement of some of the more conspicuous aspects of the reorganization of the wholesale dry-goods trade is found in a recent article by one who for a number of years was connected with the business

[1] *Supra*, ch. VIII.

of wholesaling dry goods in New York. This statement appeared *à propos* of the failure of the last of the great general dry goods jobbing houses in New York City. This type, known as the "general dry-goods jobbing house," was formerly the most conspicuous kind of house in the entire dry goods trade.[1]

In summarizing the early history of this particular concern, Mr. Page calls attention to the fact that Messrs. Buckley & Claflin originally went into business in 1843. One offshoot of this concern was Welling & Company which afterwards consolidated with George Bliss & Company in the firm of Dunham, Buckley & Company. This firm later became James H. Dunham & Co., and still survives as a prominent feature of the New York wholesale dry goods business. Now, however, it has assumed more of the aspect of a specialty jobbing house than of a general jobbing concern as it formerly was. The other branch of this original Buckley & Claflin house became Claflin, Mellin & Company which, in 1863, took the name of H. B. Claflin & Company.

"In the 80's," this writer says, "manufacturers learned the advantage of selling by sample on the road." The causes for this were numerous and complicated. Chief among them was the growth of the western country. There was a great improvement in the efficiency of selling operations conducted by mills. There were fewer bulk lots to be "jobbed" than ever before because mills, by a combination of sale to eastern and western jobbers with an increasing amount of direct sale to large retailers, were able to keep stocks from accumulating. Furthermore, as the large western jobbing houses became stronger, they were able to make effective insistence on their being given an opportunity to bid for such job lots as were offered by the mills.

[1] Edward D. Page, *The Independent*, July 13, 1914, p. 76.

Another change which told in favor of the western houses, particularly during times of depression, was the fact that the western jobbing houses paid cash to the eastern mills while the New York jobbing houses still exercised their ancient privilege of payment in from four to eight months. This inclined the mills to consider the wishes of the western houses, and even to favor those customers.

Another factor mentioned by this same writer as a cause for the growth of western jobbing trade is that after the panic of 1884 an increasing amount of hand-to-mouth buying by western retailers was necessary. As the western jobbing centers were from twenty to forty days nearer, by freight, than New York, the retailers throughout the west (which was, of course, the most rapidly growing section of the country) transferred their accounts in large numbers to western jobbers.

The decline of the general dry goods jobbing business in New York is described by Mr. Page, as follows: "At the beginning of the quarter century that followed the panic of 1873, there were some forty concerns doing a general dry goods jobbing business in the city of New York. At its end there were only five of them left. Since then the Tweedie concern has retired; the Sweetsers have failed; and Teffts have liquidated; leaving only Claflin and Dunham in the field."

The Extent of the Dry Goods Jobbing Trade

Unfortunately, there is no trade census and, consequently, any figures covering the number of houses in the dry goods trade in different sections of the country are necessarily incomplete and inaccurate. An approximate idea of the situation in the trade, however, may be gathered from an analysis of some of the

directories of the trade which are accepted as being of sufficient fulness to be useful.

These directories, in addition to being incomplete, often have the added disadvantage of not following a uniform classification in all parts of the country. It is difficult, therefore, to formulate a grouping of concerns for statistical purposes. An arbitrary grouping has been adopted, however, and the concerns listed in one of these directories have been enumerated [1] under this arbitrary listing, as accurately as possible in the light of available knowledge, according to their methods of doing business and their form of organization. These figures, though necessarily somewhat inaccurate and incomplete, are submitted in order to give some idea of the geographic distribution of the dry-goods jobbing trade.

Under the heading of *General Dry Goods Jobbers* (in which class has been grouped the type of houses which formerly predominated in the New York market and which grew up in the West under the conditions mentioned by Mr. Page), we find that there were in operation, in 1912, thirty concerns, only two of which were located in New York City, the former general dry-goods jobbing capital of the country. Chicago, in volume of business, is now the center of the general dry-goods jobbing trade, although there are only three concerns in Chicago which belong to this class. St. Louis comes next in order in volume of business, with five houses which clearly belong with this group. In addition to these two chief centers of general dry-goods jobbing, there are such cities as Kansas City and St. Joseph, Cincinnati, Louisville, Indianapolis, and Pittsburgh, in which are located practically all of the remaining general dry-goods jobbers. Generally speaking, it may be said that practically all of the general jobbers now left are located in the Missis-

[1] Sheldon's *Guide to the Dry Goods Jobbing Trade — 1912.*

sippi Valley, with only a very few in the Middle Atlantic States, and none at all elsewhere.

Of the *Specialty Jobbing Houses,* selling woolen goods among other lines, the directory gives us a total of 180, 98 of which are located in New York City, and 38 more within a radius of 200 miles of New York City. The remaining 44 are located mainly in the Upper Mississippi Valley, Western New York, Western Pennsylvania, and Eastern Ohio. The growth of ready-to-wear lines and the development of knit underwear have been two of the most important influences bringing about the growth of a specialty jobbing business. The history of one after another of the most successful of the specialty jobbers shows that the start was as an off-shoot from an old general dry-goods jobbing house, building up a business with a line of knit underwear as a nucleus for trade. In this way, line after line of the general trade has been split away from the old general dry-goods jobbing type of organization, and the lines which have been left have naturally gravitated into the hands of specialized houses. So far as it is possible to judge from any data available, this group is the most rapidly growing of all. In New York City this gravitation of dry goods wholesaling into the hands of specialty houses is almost complete. In Boston, Philadelphia, and Baltimore, it is only a little less advanced proportionately. In Chicago, with some modifications, the same history seems to have begun, for we find here an increasing number of specialty houses each year, most of them starting small, and with a limited number of lines. Only a few of these specialty jobbers pay particular attention to either woolen dress goods or cloaks and suits. A substantial number, however, carry them as incidental lines.

The *Local General Jobber* is the third general arbitrary classification chosen. It is difficult to draw a

sharp line between the more important of these and the smaller general dry-goods jobbing house in the first group. Taking the general nature of their available market, however, and the approximate geographic extent of their trade as the principal basis for division between these two groups, we find 75 houses which may be classed as local general jobbing houses. Of these, 49 are in the Upper Mississippi Valley, at such railway centers as Columbus, Ohio, and in the Central South, at such points as New Orleans, Memphis, and Birmingham, and on the Pacific Coast, notably in San Francisco. One curious feature of the distribution of these houses is that in the area easily accessible to New York, this type of house scarcely exists at all,— the main exception being in the outer edge of this region in such districts as Western New York or Northern Virginia. Local jobbing centers still figure as important factors in the trade. At practically every important railroad center in the middle west, in the south, and in the far west, there is a group of local general jobbing houses which take care of the dry goods, notions and specialty trade of the greater part of the area geographically tributary to that center. Some of these houses do a business each year as large as five million dollars, and apparently are conducting their enterprises with considerable skill and at a profit. The service which these local general jobbers and the smaller local jobbers perform is distinctly additional to that rendered by the general dry-goods jobbers, or by the specialty jobbing houses already mentioned. The former may be characterized as local supply stations for the medium and small-size dry-goods houses in their respective districts.

The fourth group, designated as *Small Local Jobbing Houses*, is distinguished from the group of local general jobbers mainly because their market area

is smaller, and their total volume of business less. The matter of location has also been a factor in classifying houses in this group,— those located at the minor railroad centers generally being placed here rather than in the Local General Jobbing House group. The small local jobbers who include woolens among their lines number 205. Of these, 64 are located in the southeast and in the Virginia and North Carolina section, and 65 in the Central South and in the Southwest, thus making 119 located in the southern district or about 63 per cent of the total number. The remaining houses of this kind are scattered through every section of the country. While they are not as numerous in the districts easy of access to the large jobbing centers, they figure everywhere as an important feature of the trade.

There are a few *Catalog Jobbing Houses* which have come, within the last few years, to figure conspicuously in the dry-goods trade, although most of them have come into the dry-goods business rather incidentally, and not as a part of their original plan. Butler Bros. of Chicago, The Baltimore Bargain House of Baltimore, and Chas. B. Rouse of New York all conduct a certain amount of dry-goods business in this way, and perform what many country dealers have come to feel is a valuable service in offering to them at least staple lines on a mail order basis.

Within the last few years there has grown up, in the Middle West particularly, a new type of wholesale house, dealing mainly in fabrics, and known as a "drop shipper." This type of house possesses no warehouse facilities, and is really an order taker. It works mainly among the medium-sized department stores. The method of operation it employs is to solicit orders from samples, and then to have these orders in car load lots sent to some convenient distributing point at the car load lot rate, there breaking

the car into smaller lots and securing a minimum of freight cost from the factory to the store. It also cuts down all storage charges, reduces handling charges, and by offering comparatively full lines is frequently able to give better than regular wholesalers' prices to stores able to buy in case lots.

Originally the mills were able to insist that the orders secured from drop shippers should be of at least unbroken case lot size. With the growing sharpness of competition, however, a good many of the mills are said to have been induced to pack cases of mixed lots. This has caused the regular wholesale customers of the mills to raise rather strong objection to the drop shippers.

This brief summary of the principal forms which modern dry goods wholesaling has taken serves to show some of the complications which have developed within fifteen or twenty years. In addition to these changes within the trade itself there are the two great disturbing elements previously mentioned — the growth of the cutting trades and the growth of the large-scale retailers who buy direct. It can thus be readily understood that the market for woolen goods is by no means the well-ordered outlet that it may have been at one time.

The Causes of the Recent Changes

These changes in the organization of the wholesale dry-goods trade clearly cannot be attributed to any one, simple cause. Underlying the whole process of reorganization are such large phenomena as the opening of the west, the drift of population westward, and the betterment of transportation facilities. Neither the changes within the wholesale trade, nor those which have been mentioned as supplementary to them, such as the growth of large-scale retailers and the development of the ready-to-wear clothing industry,

can be adequately explained without a consideration of these larger and perhaps more remote causes.

All of these factors combined seem to produce results more rapidly immediately after times of panic than at any other time. For example, immediately after the panic of 1873 there was noticeable a distinct strengthening of western jobbing houses. The buying done by the local concerns was necessarily closer, credits were shortened, and the advantages of a jobbing house near-by were materially enhanced. Approximately the same thing occurred again after the depression of 1884. The stimulation of direct sale by mills which came as a result of this increased strength of the western jobbers cut into the eastern wholesale piece-goods business on one side, while the decline in imports cut into it on another side. The two phenomena complemented each other; the western jobbers were growing stronger, and the eastern jobbers were growing less able to meet their competition.

Another conspicuous factor contributing to the change in the methods of wholesaling dry goods is the general increase in the cost of doing business. Increase in rents, as well as in practically all the other chief items of selling cost, brought the cost of carrying on the business of some of the eastern jobbing houses to a figure which was entirely unsafe. For example, after the failure of one of the few remaining general wholesalers in 1910, it was declared that the figures showed that it had cost them $750,000 to do $5,000,000 worth of business, and it was further declared that this cost of 15 per cent probably did not represent a maximum in the wholesale dry-goods trade.[1]

Notwithstanding the rising costs of doing business and the decreased strength of the eastern jobbers' position in the handing of a general dry-goods line, the fact remained that about a quarter of the total popula-

[1] *New York Journal of Commerce*, April 23, 1910.

tion of the United States was still directly tributary to New York City. Furthermore, since New York had come to be recognized as the center for style influences, a great part of the direct buying for large concerns in all parts of the country was centered in New York. These two phenomena alone would be sufficient to account for the development of the specialty business which took the place of general dry-goods jobbing.

Again, as transportation facilities were improved and well-defined market areas developed in the west, manufacturing wholesalers grew up at the great railway centers, and local general jobbers at the lesser centers. In the southeast, where the greater part of the country business is still conducted by general stores, the form of jobbing house developed is slightly different from those found in the west.

Notwithstanding the complexity of the organization of the wholesale dry-goods trade of the country, one fact in connection with it appears fairly clear, namely, that the changes which have taken place in the trade have not, in the main, been due to an elimination of the wholesaling function, so much as to a change in the method of performing it. It seems probable that the factory system of production is established as the permanent method for the manufacture of the greater part of the goods handled by the dry-goods trade. On the other hand, the final sales must be in small units, and a large part of them far from the factory. Hence the permanence of the diverse retail outlets, whose task it is to handle many different lines of dry goods and allied commodities, seems probable. With uniform large-scale production at one end of the distribution mechanism, and diverse small-scale consumption at the other end, it seems evident that the function of collecting diverse lines and moving factory products in large quantities as far as possible toward the consumer

before breaking them up is a necessary and important one. This is the work of wholesaling. It remains to be demonstrated whether it can be as well performed as an incident to either production or retailing as it can be as a separate specialized function.

The central problem in connection with the wholesaling of dry goods, therefore, is not a question of eliminating this or that individual, or type of wholesaler, so much as it is a question of the best possible adjustment of organization to functions.

Changed Methods of One Concern

Perhaps the meaning of this can best be illustrated by the following account of what took place in connection with the reorganization of the Claflin Company. It is reported that when the question of the future of the company was raised, it became a matter of dispute between the banking creditors and the merchandise creditors whether the wholesale business of the company ought to be continued. It was finally decided to continue the business, but to reorganize it on the most modern lines possible.

Among the other important changes made at the same time was the elimination of all the general salesmen. The salesmen who were kept were obliged to be out on the road at least eight months of each year. This led to less order-taking by mail, and to much closer personal contact between the house and its customers.

Again, the New York sales rooms were replanned. For instance, all the dress goods were placed on the first floor, and this was equipped with suitable sales racks, so that the house is now said to have the finest dry-goods sales floor in the country.[1]

[1] "The old method of showing goods in cases or on them has gone. In its place there has come a series of racks no higher than a man's eye, on which are placed, in sequence, every variety of every class of fabric offered for the season or for staple use. This display of goods has been carried to such perfection that a buyer may now walk from one

The same sort of reorganization was undertaken in most of the important departments of the house. For example, the shipping department was so reorganized that it showed a saving of $50,000 in three months compared with the former costs of operation. Furthermore, the department was so much better conducted that the customers of the house quite generally spoke with approval of the speed and accuracy with which it did its work.

This brief account of what took place in a single house serves to illustrate the central problem which confronts the wholesale dry-goods trade in its present form. Apparently the solution lies in a practical appreciation of the fact that there is a wholesaling function to be performed, and that the type of house which performs it most effectively, with the least waste, will survive. The other types seem destined to perish.

The Dry Goods Jobber and the Sale of Fabrics

The total volume of woolens and worsteds sold through the dry-goods wholesalers is still very large, and for some time at least, it seems probable that its decrease will be relative rather than absolute. But with the increased amount of contract business through the cutting trades it appears certain that the sale of most lines of piece goods, both fancy and staple, will never be again as conspicuous a part of the dry-goods wholesaler's business as it once was.

end of the Claflin first floor to the other and see before him a sample piece of every cloth on the market. Moreover, all cloths are shown. There is no attempt to hide the fine novelties, to make secrets of goods that every buyer ought to see and know about, if he comes ready to buy them. If they are not ready for sale, the goods are not shown. In only four months the spirit of the selling has so changed that the smartest buyers of dress fabrics in the country now find it a necessity to look at what Claflin is showing. The opportunities that lie before a house on the seaboard and in the closest possible contact with manufacturing centers need not be amplified here to illustrate why buyers now go to Claflin's first."— *New York Journal of Commerce*, May 7, 1915.

The dry-goods wholesaler, however, seems likely to continue handling certain lines. Notable among these are the soft, easily draped, woolen dry goods, and a few staple woolen products of other kinds, such as flannels and blankets. It is inevitable, also, that a certain number of worsteds will continue to go into consumption by way of the wholesale dry-goods trade.

Most of the sales by the mills to the jobbing trade are now conducted by private transfer. The auction sale, which is still employed extensively in the carpet trade and which formerly was a conspicuous feature of the woolen business,[1] as it was with the cotton goods business,[2] has practically disappeared. In occasional years an accumulation of slow moving lines may be cleaned up by this method, but the use of auctions may be said to have practically ceased.

[1] *New York Chamber of Commerce Report*, vol. 32, p. 87. In 1889 the distribution of flannels was chiefly through the medium of the auction rooms.

[2] M. T. Copeland, *The Cotton Manufacturing Industry of the United States*, pp. 201–204.

CHAPTER X

THE MARKETING OF WOMEN'S PIECE GOODS

THE commercial problems of the woolen or worsted mill producing piece goods center about the saleability of the product. Under ordinary circumstances, if a mill's product can be sold at all, it can be made to yield a profit. The great uncertainty lies in the mill's ability to sell it at any price. For this reason, many types of woolen and worsted goods virtually must be sold before they are made. Relatively few lines can, with safety, be manufactured in any quantity for stock.[1]

The problems connected with the standard, staple lines are radically different from the problems encountered in dealing with those products whose value depends to a considerable degree on some element of style or design. For example, the marketing problems involved in making and selling such lines as blankets and flannels, for which the demand continues year in and year out (with perhaps some seasonal variation), might be discussed satisfactorily by considering in order the problems of raw wool buying, then the problems of production, and, finally, the problems of selling. In goods such as these, no serious disturbance of values is introduced by attempts to assign transient merits to the fabrics. But where fashion determines values, the intrinsic properties of the cloth are almost negligible compared with style in determining the sale-

[1] "The whole trend of business has been to so increase the style risks, that it is considered bad judgment to make goods for stock, and the aim of every manufacturer is to make goods only on order. Thirty years ago a large percentage of woolens and worsteds were manufactured for and sold from stock."—Statement by a distributer of textiles.

ability of the goods. While these so-called "style" products do not represent as large a yardage as the staple lines, they constitute a great part of the output of American mills, and they present serious commercial difficulties.[1]

If the distributing mechanism by which these so-called "style" fabrics are sent from the mill to the consumer were so constituted as to minimize the style factor in the marketing of cloth, the commercial problems of the cloth manufacturing industries would be relatively simple. Instead of this, however, the mechanism is so organized as to exaggerate the influence of style. Moreover, recent changes in the selling methods have even further intensified style influences, while, at the same time, they have weakened the ability of both the mill and the distributing mechanism to meet them.

The line of goods in which the element of style is most conspicuous is women's piece goods. "Piece goods" is a term variously used in the different woolen trades. In the sense in which it is here employed it includes dress-fabrics, both staple and fancy, suitings, overcoatings, and the various tailors' woolens.[2] Women's woolen and worsted piece goods, on the way from the manufacturer to the wearer, may be classified in two large divisions: (1) the material which is destined for the over-the-counter trade, and (2) the mate-

[1] *Supra*, ch. VI.

[2] The Arlington mills enumerate their piece goods lines as follows: "The Staples in which the Arlington Mills specialize are Brilliantines, Sicilians, Mohairs, Imperial Serges, Storm Serges, Cheviots, Panamas, Batistes, Taffetas, Voiles, Nun's Veilings, Cashmeres, Shepherd Checks, etc.

"Fancies include all kinds of novelties. In one class of these novelties the different effects are produced through variation of weave, in another class principally through variation of color, and in still another class through variations of color and weave, or through odd intermixtures of the materials going into their construction. The class in which effects are produced through the weave includes Berbers, Brocades, Brocatelles, Crispettes, Melroses, Hopsackings, etc. The class in which the effects are produced largely through coloring includes

rial which goes to the "cutter," or cloak and suit maker, and from him into the trade in the form of ready-to-wear clothing.

In discussing the marketing problems of woolen and worsted piece goods, it is necessary to distinguish sharply between fabrics designed for women's clothing and those designed for men's clothing. In some cases the two types of fabric are similar, both in form and in commercial handling. Sometimes, to be sure, the same fabric will find outlet into either market, but generally speaking these two types involve entirely different distributing problems. "Many cloths are used for both men's wear and women's wear, but seldom at the same period; and, as a rule, those used for women's wear are of inferior quality, both as to raw material and construction.[1]

The relative importance of these two branches of the distributing mechanism, as they are employed in the sale of dress goods, depends in a large measure upon style conditions, and varies from season to season. When soft, draped effects are most popular, the dressmaker does a big business, and the amount of over-the-counter trade materially increases, while in the seasons when more severe and more closely fitting styles prevail, the ready-to-wear business shows a gain. But underlying these variations, the past fifteen years have shown a fundamental tendency toward a steady increase in ready-to-wear business.

Even before the ready-to-wear trade had reached sufficient importance to cause this great division in methods of dealing with women's dress goods, the old, or "regular" system of over-the-counter distribution

Stripes, Checks, Plaids, Melandes, Mixtures, etc. The third class includes fabrics so novel in their make-up that the names applied to them change from time to time and have no established significance. The names are as changeable as the fabrics themselves. In general, Fancies or Novelties comprise that great variety of fabrics in vogue for a time, but for which the demand for any particular style is transitory. They change from year to year, according to the dictates of fashion."— *A Brief Outline of the Business of William Whitman & Co.*, published by that Company in 1910, p. 28.

[1] Statement by distributer of textiles.

had proved inadequate to a satisfactory handling of the business. There were two chief causes for this condition: (1) the westward movement of dry-goods wholesaling, and, (2) the development of the department store and other large-scale retailers.

Recent Changes of Conditions in the Cloth Markets

During the time when the small dry-goods stores which sold goods over the counter were the only important retail outlet for women's dress goods, the selling mechanism was comparatively simple. The mills turned over their commercial operations to selling houses, who often planned the production as well as the selling for the season. The goods were sold by the selling houses to dry-goods wholesalers in the large eastern cities, notably New York, either as the goods were produced, or as "job lots," if production for a time outran consumption. These wholesalers, in turn, sold the goods to retailers, or to local western wholesalers who served smaller groups of retailers in their respective communities. About 1870 came the practice of sending out travelers to the local western wholesalers both from the selling houses and from the big eastern wholesale houses. This was soon followed by the decline of the large general wholesale houses in the eastern cities. Some of the more progressive of their customers among the western wholesalers grew large enough to get from the representatives of the mills better terms than the eastern wholesalers could give. At the same time many of the smaller customers of the eastern houses acquired the habit of waiting for the salesmen from the wholesale house, or the mill, to call, instead of going to wholesaling centers to make their purchases. On such a basis, the progressive jobbing houses in Chicago, St. Louis, and other cities, not only ceased to buy from the eastern wholesalers, but were able to send out their own salesmen and under-

sell the eastern houses throughout the west. The eastern houses, in this way, lost many of their customers, both large and small.[1]

While the eastern wholesalers were thus being outrun by their western rivals, the department stores grew up. They multiplied from three in number to nearly 4,000 in about fifty years. Many of these became so large as to demand and get jobbers' terms from the mills' selling houses.[2] The big department stores, carrying large stocks of over-the-counter woolens, were able to draw consumers away from small stores for miles around. The city department store quickly became far more satisfactory as a purchasing place for this kind of goods than the small town or country store. This was because of the advantages of comparison before purchase, not merely between the varieties offered in the stock of a single large store, but between the varieties offered in several large stores near together. The result, of course, was that simultaneously there was more direct buying by large retailers from manufacturers, and less buying by the small retailers through wholesale dry-goods houses. This concentration in city stores has been so complete that in most small retail dry-goods stores the woolen and worsted piece-goods business has now either been abandoned altogether or is handled only as a minor part of the business, and covers only a very restricted line of fabrics, mainly staples.

This demoralized trade was in no condition to defend itself when the growth of the ready-to-wear business still further disturbed the methods for distributing piece goods. Seldom can ready-made clothing be handled successfully by a large wholesale dry-goods house carrying hundreds of other lines. The wholesaling of these goods, as has already been pointed

[1] *Supra*, ch. IX.

[2] All the large retail establishments, particularly the department stores, are given favorable terms,— probably 5% less than regular prices.—Statement by commission house.

out, is a specialty business, and nearly all of it which does not take the form of direct sale by the cloak and suit makers is cared for by specialty jobbers. The spread of the ready-to-wear method of supplying women's clothing in turn still further increased the strength of the department store in even moderate-sized towns. The small dry-goods store which had been unable to compete with its large rival in piece goods, could not hope to compete in the ready-to-wear lines, which involved even larger outlay and heavier risks.

It should be noted, moreover, that the department store is not the only outlet for ready-to-wear worsted and woolen goods which has reduced the small dry-goods retailer's former share of the women's dress-goods trade. Other large retail distributers have grown up. Consumers no longer find piece goods in satisfactory variety nor can they find ready-to-wear woolen garments of the better grades in the local country or small town stores. But not all of these consumers can, or will, go to the department stores in the large town, or city, to supply their needs. This is a state of affairs upon which two other disturbers of the old conditions have thriven — the "book houses" and the "mail order houses." These may be classed for purposes of discussion with the ready-to-wear outlet, because their cloth purchases are made in a manner quite similar to those of the regular cutters.

The mail order houses are too well known to need detailed explanation. Their clothing is usually produced in their own factories. They purchase cloth on contract or in "jobs" and sell their product by catalogue directly to the consumer. The "book houses" have become widely popular during the past ten years, and some of these houses now sell clothing in all parts of the country. Their method of sale is simple. In small tailor shops, and even in dry goods or other stores in small communities, they place a book with plates

illustrating fabrics made up into gowns. These plates are accompanied by swatches of cloth. The local merchant is equipped with standard instructions and facilities for taking measurements and forwarding them to the parent house for making up. The customer thus gets the benefit of a personal choice of her fabric and style, and in the same way is able to get the goods made up at a price as low as that for ready-made clothing.

One other feature of the distribution of women's woolen dress goods which should be mentioned is the "ladies' tailor." Some houses of this type operate on a scale large enough to enable them to buy in the piece, while others buy in suit lengths. In any case they buy chiefly from jobbers making an exclusive business of handling tailors' woolens, rather than from the dry goods jobbers or wholesalers. Some buy from both types of house. These tailors, and the city specialty stores, offer about the only remaining over-the-counter outlet for dress goods outside of the department stores.

Financial Aspect of the New Conditions

The actual volume of over-the-counter trade in women's dress goods still remains large, but how large nobody seems able to say. Some members of the trade put it as low as a quarter of the total American output. Others put it as high as sixty per cent or even more. The facts seem to be: (1) that it varies in different classes of goods from season to season, (2) that the fancy goods end of this trade virtually has been abandoned by the small dry-goods dealers, and (3) that during a period of ten years the percentage of the total woolen and worsted goods sold over the counter has shown a marked net decrease.[1]

[1] "The distribution of dress goods varies according to fashion. When tailormades have a big run the business of the maker-up is materially increased. On the other hand, when dresses are in vogue which can be handled to advantage by the dressmaker, the distribution of dress goods through retailers increases."— Statement by a mill styler.

The effects of the changed marketing conditions which have been outlined go far deeper than the mere mechanism of distribution. They concern the profits and the financial standing of the manufacturer and the distributer. This fact is receiving more and more attention from financial interests connected with the textile trades. In June, 1914, a Boston bank issued a statement on this subject, giving particular attention to the way in which these changes in distribution have intensified the "hand-to-mouth" method of handling textiles. It was further stated that[1] "anticipation of the present trade depression naturally led wholesalers and retailers away from speculation in goods and influenced them to keep their stocks at a minimum."

The following comments on this statement by the textile editor of the *New York Journal of Commerce* help to make clear the connection between these financial effects and their commercial causes:

> The tariff has not been the chief and only factor of difficulty with dry goods men. Other changes have taken place in five or ten years that have been far more influential in bringing about the uncertainty and fretfulness that are now seen. The recent rapid changes in the styles of fabrics and dress have no parallel in the history of merchandising and they have been a powerful influence in deterring wholesale and retail merchants from buying ahead as they used to do before styles and fashions exerted such an extraordinary effect in making stock values uncertain from season to season.
>
> Very radical changes have been made in ten years in the methods of distribution. Deliveries have been quickened, packages of goods have been made smaller, salesmen are making more frequent trips to their customers, and customers have found it convenient and profitable to visit central markets oftener. The rise of the catalogue house and its invitation to direct purchasing by mail have been a great influence in forcing wholesalers and retailers to adopt modifications of their methods of distributing merchandise.

[1] First National Bank of Boston. New England letter, June 15, 1914.

The parcel post, automobile service in rural and city deliveries, and a quickening in recent months on the part of express facilities, are other suggestive things that have had a wide influence in changing the manner of distribution depended upon by merchants.

Extensive advertising to attract the attention of consumers, some of it wise and some otherwise, has not been a silent influence in bringing about new calls from those who use goods and who demand the kind of goods they want. There has come in many instances with this form of advertising a complete change in manufacturing and distributing methods in many large producing and merchandising concerns, and it has not been a change attended with slight difficulties to the merchant of either long or short experience.[1]

The changes in distribution methods, as we have seen, are partly the result of new production conditions, but they seem to be due even more to new conditions of consumption. The time came when the old, "regular" channels for selling cloth no longer met all the requirements of the new distributing process. New methods were developed. As yet it seems by no means certain either that the old method is to be abolished, or that all of the new methods are permanent.

There is a large body of the women's piece goods trade which illustrates this uncertainty. This trade is being striven for with great vigor and skill, both by individuals and by distributers' associations.

An illustration of the methods advocated by associations in trying to hold a portion of the women's dress goods trade to its old, "regular" channels is found in the following report of an address by Louis Dempsey of the Butterick Publishing Company at a meeting of the Jobbers' Association of Dress Fabric Buyers held in New York in the summer of 1913:

The speaker contended that sales of piece goods could be increased greatly among retailers by the establishment of a pattern department and intelligent co-operation between dress goods department heads and the pattern department.

[1] *New York Journal of Commerce*, June 19, 1914.

Another method was to advocate the establishment of dressmaking schools throughout the country. By showing school boards the economic advantages of adding dressmaking classes to the curriculum Mr. Dempsey was quite certain the suggestion would be adopted in most cases. Instead of appointing a committee to take up this matter, it was proposed that each member take this work upon himself, a suggestion that was approved heartily.

The establishment of dressmaking schools is not a new idea with this association. For several years past the desirability of such a move has been pointed out, but if the hour or more consumed yesterday in threshing out this old straw indicated anything it proved that stronger efforts will be made along these lines in the future than in the past.

During the discussion that followed Mr. Dempsey's talk a member asked whether it was not reasonable to suppose that retailers would be disinclined to push dress goods to the detriment of their ready-to-wear departments. This question was answered by another member who said that in small towns the competition in ready-to-wear was keener than in dress goods, and that it would require no great amount of inquiry to show that the small retailers generally prefer to sell dress fabrics out of which they can make a good profit to pushing their ready-to-wear departments, which at best do not give them as good a return proportionately.[1]

From this summary of a few of the more important recent changes in the methods of selling women's piece goods, it is evident that the selling problems confronting the maker of women's woolen or worsted fabrics are very different from those which confronted such manufacturers a generation ago. The whole distributing organization is demoralized. The old, or "regular" trade handles a decreasing amount of piece-goods business and handles it less and less efficiently or profitably than formerly. Direct sale to large retailers and contract sale to cutters, or cloak and suit makers, and to book houses and mail order concerns have come to play an increasingly important part in the trade. Large sales of this kind have introduced

[1] *New York Journal of Commerce*, July 16, 1913.

a new group of risks for the manufacturer,[1] which, as yet, the mills have no adequate means of meeting. Their only safety is in a wider profit margin.

Perhaps the most important single factor in increasing the losses in the dry-goods trade in its present form is the style risk. This element increases the cost of doing business in many different ways. The brief summary given of some of the main changes in distribution of this single line of women's piece goods will enable us to examine more profitably some of the more serious aspects of style as a commercial factor.

[1] *Infra*, chs. XIII, XIV, and XV.

CHAPTER XI

STYLES AS A FACTOR IN THE MARKETING OF WOMEN'S PIECE GOODS

1. The Setting and Adoption of Styles

STYLES as a factor in the fabric trades are not new. They have had a marked influence even before the factory system became important. But the changes in distributing methods for cloth, the increase in the ready-to-wear business, and the wider and quicker circulation of style knowledge among consumers have combined to magnify the place of styles among the problems of the cloth maker.

The couturiers, or designers of costumes, in Paris are sometimes spoken of as arbitrary dictators of what the women of Christendom shall wear. As a matter of fact, they are but one step in the complicated process of style setting. While it is impossible in this book to describe in detail the course of development of a style from the time it is designed to its general acceptance, some understanding of the difficulties facing the style designer and the fabric maker may be gained by a consideration of the problems involved in (1) creating new styles, (2) securing the stamp of the market's approval upon them, and (3) transplanting them into the American market.

The Creation of New Styles

It should be made clear, first of all, that "setting" styles is not as definite an act as that term would indicate. The couturier owes his leadership more to the establishment of his reputation as a creative artist

than to his ability to secure widespread approval of his creations. In fact, the general acceptance of a creative idea ends its usefulness for his purposes. Such an adoption, however, strengthens his reputation as a style prophet, or dictator. In theory, at least, his interest is mainly in the creation of new styles. In practice his aim is to use his creative ability and his skill in publicity to establish a reputation. Few forms of publicity are as valuable to a couturier as that of getting credit for having started some widely accepted vogue.

The style calendar varies somewhat from year to year. The date of Easter, the condition of the weather, and other influences change it. Under ordinary circumstances, however, the garment style year opens with the showings of new designs by the Paris couturiers in early February. The designs shown then are seldom accepted in the form in which they are first brought out.[1] But, modified by subsequent changes by Parisian dressmakers, and by new style influences, they furnish the leading motifs for the spring and summer season clothes of fashionable folk at the Riviera. Later, at Swiss resorts and at various fashionable bath centers, the survivors among these motifs appear still in further modified form. By June the new ideas have become pretty well-defined and there is a secondary spring and summer showing for the benefit of early American tourists. This usually represents a blending of the February style motifs with the various other influences introduced later. In late July or about the first of August, during the racing season, the second main style showing for the year occurs. This marks the beginning of the fall and winter goods year, for the styles shown at this time are the basis for fall and winter fashions.

[1] A style is not set by any one directly. It is a development. Hundreds of suggestions are shown and thousands of samples are submitted, which are not taken. By a process of elimination governed by past successes the style finally takes definite form.— Statement of a distributer of textiles.

There is also a secondary display of modified forms about December 1. But the real openings are in February and August.

The couturiers, as a rule, aim to find some event of general interest upon which to base their designs. This event may be some anniversary, it may be a war, or a successful new play, or merely a new dance. Nothing, great or small, light or serious, is incapable of becoming the basis of an attempted new fashion. The couturiers, however, usually relate a design to some real event. There are excellent reasons why they seldom create styles from nothing. Their problem really is a very much more serious one, and their power is less absolute than is generally supposed. The female population of the temperate zone, which constitutes the ultimate market for their suggestions, is obliged, by climate, to change the weight of its clothing at least twice a year. This division of the year into two parts, representing a heavy-weight season and a light-weight season, is the basis for the work of the couturiers. There must be a more or less complete renewal of clothing every six months, and much of this, in the natural course of things, will be in the form of entirely new purchases. As it requires nearly a year to make and distribute the fabrics for the renewal, it is apparent that any forecast of what is to be of interest in the next season must partake of the nature of a prophecy made at least twelve months in advance. Among the many styles worked out in Paris in February, there may be one or two which will determine what will be popular for spring and for summer wear. Similarly, the late summer changes in Paris form the basis for the world's clothing for the following summer.

This is the serious side of the couturier's work, and it affects the cloth-maker directly. Cloth-makers as well as clothing makers recognize the fact that, all other things being equal, that style which proves to be most intimately associated with a live interest at the season's

height (six or eight months after the style is designed) is apt to secure the favor of the public, while other fabrics or garments, equally good inherently, may fail.

An illustration of the complexity of the problem which faces the style designer is found in the influences prevailing at the opening of one recent spring season. The Balkan wars had called attention to some of the peculiarities of costume in the less known countries of southeastern Europe, and a number of style motifs had been borrowed from that section of the world. Moreover, the Chinese Revolution was centering attention upon China, and from that section of the world came a revival of Mandarin coats and various other features of Chinese origin worked out by the Parisian couturiers. At the same time, Bakst, the Russian portrait and scene painter, was having a great vogue in Paris, and his work also contributed a number of suggestions to the designers. Even the Futurists were levied on for new ideas in color, as well as for suggestions in patterns. It happened that, as this particular season wore on, none of these motifs was received with enthusiasm, so that there was a great variety in the general character of styles.[1] Along in the season, however, came the success in Paris of a play by Jacques Richepin, known as Le Minaret. The scene of the play was laid in Bagdad, and many of the costumes had been designed especially on an Oriental motif by Monsieur Poiret. The designs of two or three of the peculiar costumes in Le Minaret eclipsed all of the other style motifs for the season and had an influence upon both cut and fabric which lasted longer than the usual life of a single motif of this sort.[2] The important commercial result was

[1] *Dry Goods Economist*, June 21, 1913.

[2] "Mme. Arnold is the new star among dressmakers from the States. Although she has modest quarters and has not shown marked variety in styles, she applied Poiret costumes in Le Minaret to everyday gowns and made short tunics the fashion. Every one is wearing this kind of gown, with slim underskirt and ballet tunic over the hips."— *New York Times*, August 31, 1913.

that as soon as Le Minaret assumed leadership scores of perfectly good lines of fabric designs and of gown models became almost unsaleable.

The more serious side of the costume designer's work, then, is appreciated when it is recognized that what he is doing is making an effort to foresee what half of Christendom will be most interested in months hence. Following his lead, the fabric manufacturer must be ready for the half-yearly renewal of the supply of clothing with fabrics which must be finished and in the hands of the retailers at the time when the renewal is to be made. Furthermore, this must be accomplished in spite of the fact that it takes from four to six months to make and distribute the cloth. It is easy, therefore, to understand that, quite aside from his influence among the wearers of clothes, the designer or styler who can establish a reputation for forecasting successfully what the market will be interested in, is watched closely by those to whom style is the center of a commercial problem. As a matter of fact, he secures a certain amount of power actually to influence demand by virtue of the establishment of his reputation for being able to forecast it. The creators of style are not, however, mere arbitrary dictators. The successful ones need to draw upon most of the arts and sciences. They are trained experts in a very large sense. As a group, these designers probably wield a greater influence economically than any group of corresponding size in the world.

The Adoption of New Styles

The second step in the life-history of a style is its adoption. Having once created a design, or developed a style, the problem of the couturier is to make it enhance his reputation as an originator. This is done by securing artistic as well as commercial approval of the design as inaugurating a "vogue." Each season every costume designer in Paris puts out a large

number of new designs in the hope that among them there may be at least one which will have in it the elements of life, and which may have distinct influence in all parts of the women's clothing market. If one out of twenty lives, he is repaid.

The easiest, quickest, and least talked about of the methods for securing the adoption of a style is to be so fortunate as to sell some newly created costume to a royal or titled person to whom it is particularly becoming. The appearance at a noteworthy function of some Princess or other royal personage, with a reputation for sartorial imagination, dressed in a new creation which looks supremely well, may make the future of that style for the season. The gown is never copied exactly, but the idea upon which it is built is made to serve as a style motif.

A second method is to secure the stamp of approval upon a certain type of design by a popular actress, either in connection with her stage work or in connection with her appearance at one of the more fashionable resorts on the Riviera or elsewhere. Style experts make it a business to watch the public appearances of actresses as well as of royal and noble folk, and they are quick to report any great success on the part of the costume designers who have created for these people some particularly effective combination. If a new creation is talked about,— whatever may be the cause of the interest aroused in it,— it is carefully watched and worked over until, as a style motif, it dies or is adopted.

A third method for securing approval of a style is more discussed, and is probably more often resorted to than either of these. This is to place a new creation, or a number of them, upon models, or "mannequins," and to send these persons to public places in Paris, such as the races, or the boulevards. When exhibited in this way the clothes quickly attract attention and

immediately are talked about, and cabled about, all over the world.

Not only are style reporters on the watch for this method of exploiting new creations, but "mill stylers" carefully keep track of all such appearances. Within recent years, also, cloak and suit makers and buyers for large department stores from many countries (and particularly from the United States) have made a business of being on hand at functions where new creations might be displayed.

Sometimes, the fabric style may be an integral part of the garment style. In other cases, it may have been previously created by the European fabric maker and adapted to the garment by the couturier. Again, it may be that the fabric in the model garment can be used only as a suggestion for new developments and modifications by the cloth-maker. In any case, when the mannequins appear at the Paris races, the fabric is as much an object of study as is the cut of the garment. The materials which are displayed in this way represent a selection from a wide variety of fabrics which have been created on an experimental basis. Out of one thousand designs worked out each year in one house, perhaps fifty will live, and this is not considered discouraging. The information about cloth designs secured upon the appearance of the mannequins with the new styles is forwarded at once by cable to the fabric makers on this side of the Atlantic, and is used to "check up" the earlier style information which they have secured from other sources. It is thus that fabric styles are worked out for the American trade.

Introduction of New Styles Into the United States

The third step in the establishment of an American style is its transfer to this country from Paris. A discussion of the processes by which this is done involves the separation at the outset between those designs which

are brought over for use without modification, and those which are introduced to serve as style motifs for the factory production of ready-to-wear clothing.

A limited number of the original creations of the Paris designers is bought every year by Americans who go to Paris for the purpose of buying these garments for wear. The market for these direct purchases is not large, but apparently it is growing, and in recent years some of the designers have made an effort to exploit their wares to the American consumer direct. It has become quite common for representatives of the great Paris designers, or even the designers themselves, to tour the United States soon after their season's opening. Some of them give exhibitions, some give lectures, but all are liberal with interviews.

The following is a characteristic interview with M. Paul Poiret in the course of his tour of the United States in the fall of 1913:

> The day of rational clothing is gone for ever. M. Paul Poiret, himself, has said so. He said so in telling department store buyers and newspaper men why he is the greatest designer of clothes, house decorations and furniture in Paris.
>
> M. Poiret wants it distinctly understood that he is not a dressmaker. No! Not at all. He designs women's clothes, which is quite different. He also designs furniture, for which he has founded a school.
>
> "I have children in my school," he says, "very young children. Twelve years, thirteen years — very young. It is better that they are young. They have no education, no false ideas of art. They can be more barbaric, can make more startling designs. One must be barbaric."
>
> There you have it: One must be barbaric! M. Poiret says so. That is why he is in Boston — to tell the women how to make their clothes. How to be barbaric.
>
> "I make my clothes very simple," he says. "Very simple, but different. Each woman must be different. The dress may be very poor! (Here his interpreter explained that M. Poiret meant inexpensive.) Yes, that is it, inexpensive. The material may be very inexpensive — but the dress costs just as much, no matter what the material.

I study each woman. The dress must fit her individuality. I secure my effects with colors. The old colors are all tired. Faded. The extreme of tired colors has been reached. We must become more barbaric.

One must become more striking to be well dressed. Wear too big a bow. A ribbon in the wrong place. Too small a hat.

American women have no styles. The women of your country have been deprived of the privilege of seeing real styles. The buyers who come to Paris to get styles say, "No, that is too 'loud' for our women," and will not bring back real styles. They will not buy my styles.

I do not believe in richness. Be simple. The trouble with women's dresses is that they are made by women. Women have too much imagination. They are not logical. They put too much on the dresses — laces, beads, trimmings. Dresses must be designed by men to be correct.[1]

The exhibition method of exploiting these original creations in this country is perhaps the newest development. This method was tried in the spring of 1914 by Mme. Henri Joire, who with the help of six French models displayed 100 gowns designed by her sister-in-law Mme. Paquin. This display took place in a miniature movable theatre designed by Mallet Stevens. The theatre was set up in a fashionable hotel or other suitable place in various cities of the eastern part of the United States in the course of a scheduled tour. The publicity features of the plan are illustrated by the following "reading notice" in a Boston daily paper:

Mme. Joire comes to Boston as the final city in a tour of New York, Philadelphia, Pittsburgh and Chicago, where similar "expositions d'art" have been uniformly successful. It is the first time that such a display has been sent to America by Mme. Paquin.

Why are we making this display of gowns, none of which can be bought? Well, we conceived some time ago the idea of this voyage. As soon as Mme. Paquin gets a new and interesting idea she hastens to present it to the American

[1] *The Boston Herald*, October 3, 1913.

public. The Americans have, indeed, always liked innovations. . . . The house of Paquin owes it to itself and to those who wear our Parisian creations to go ahead and put into execution in New York an idea which was dear to Paquin. It is therefore gratifying that the American public appreciates the artistic effort which we have made to present to it our creation in a way worthy of it.

As soon as our project became known, we were requested on all sides in Europe to display our collection there — not only in the great capitals, but in less important cities, a fact which shows how much importance is attached to such an exhibition abroad. Since coming to America a number of people have begged us to go to more leading cities, but we cannot.

You want some details concerning the organization of our exposition? Well, we will make it at the Somerset. Mallet Stevens, the artist, has already conceived and built a little theatre. This theatre, designed in clear and distinct colors, will show the beauties of the dresses exhibited. We have brought it all ready made from Paris, where we have had it built in order to be able to judge the dresses in their original and peculiar light.

The mannequins will pass there in procession as at our salons in the Rue de la Paix, Paris. A catalogue drawn up especially for this exhibition will permit the ladies to recognize the dresses from the names and numbers contained in it.

None of the gowns that will be exhibited are for sale. An admission fee of $2, which includes the tea to be served, will be charged.[1]

One of the apparent purposes of this method of direct exhibition of Paris models to American consumers was to encourage direct purchase by Americans in Paris, but the indirect object was to strengthen the reputation of the exhibiting house as a dictator of fashions.

Parisian styles as a whole, however, are not thus easily and directly transferred to America. Commercially speaking, the direct exploiting of Paris fashions to the American public is far less important than the adaptation of the underlying style motifs in the

[1] The *Boston Herald*, March 19, 1914.

creation of acceptable designs for ready-to-wear clothing. It is neither feasible nor desirable in the case of mass production to copy the Paris models closely, but it is necessary to anticipate the re-action of the purchasing public toward the characteristic features of these creations.[1] In many respects this is quite as important as the creation of the design in Paris, and the securing of its adoption in the more advanced European style centers. Seldom or never is a style, either in cut or in fabric, brought to this country for general use in its original form. Its lines, its characteristic features, become merely a point of departure for innumerable variations.

In the matter of fabrics, for example, the United States market is seldom willing to accept innovations in the radical form in which they first appear across the water. A few years ago, checks were launched in Paris, and as worn by the Parisian mannequins they were huge, coarse checks in black and white. American styles in the ensuing season showed a marked leaning toward checks, but the American ones were tiny and modest compared with their French originals.[2] Season by season, however, witnessed a gradual increase in the size of the American checks until by the third season after their original launching in Paris, big checks in rough fabrics were "being worn" quite fearlessly in the United States.

This step of "adaptation" marks the last stage of the American fabric maker's participation in the problem. Through style agencies he has watched the development of the new creations and their adoption in Europe. He has also carefully noted the American comment on and the attitude toward these new crea-

[1] "Styles are modified by taking a collar from one garment, a sleeve from another and the whole reassembled into a new creation embodying the best features of the rather extreme models from which the ideas are taken."— Statement by a style expert.

[2] Interview with an American representative of a European mill.

tions. Although he cannot be positive what the American demand is to be, nevertheless with this style knowledge in hand, he is prepared to hazard an opinion and to work out a forecast of what he thinks will be the essential features of the American fabric designs for the season.

Paris is regarded as the undisputed source for women's dress fashions, both for garments and for fabrics. To be sure, German, Italian, American and other designers occasionally come forward with some acceptable new idea. But in the main, the dominance of Paris in styles and fashions is as complete as it was in the days of Louis XIV.

There is, of course, a possibility that the completeness of the control may not be permanent. Germany, with its attention to training in industrial art apparently hopes some day to be free from dependence on French designers. And there have been several movements started in this country for the development of American fashions.

The couturiers apparently do not feel permanently secure in their present position. During 1914 eight of the leaders among them formed a "syndicate for the protection of French dressmaking," the objects of which are described as being:

1. To wage war to the death against the intrusion of foreign firms in France, and especially in Paris.

2. To fight against imitation and counterfeiting however they may manifest themselves.

3. To fight against the invasion of foreign workers (clerks and laborers, male and female).

The methods proposed by Paul Poiret for accomplishing the second of these objects included the following which are typical of the methods of the syndicate.

> The Syndicate shall take the most efficacious measures to prohibit its buyers from any wholesale business carried on to its detriment. Certain foreign houses have introduced

during recent years the deplorable custom of buying a sample of our models and then reproducing it to infinity, in order to resell it directly to their own customers. In this way such houses profit more than we do from our own creations; moreover, as they sell generally at rather reduced prices, they diffuse and vulgarize our creations in a manner prejudicial to our interests and deprive us of a profit that is rightfully due us. It is therefore necessary that an agreement be made — and that all our customers understand it once for all — to the effect that they do not purchase models from us, and, most especially, that they do not purchase the right to reproduce these models for their private customers; that we reserve this right of reproduction for ourselves, and that we are the only ones privileged to grant it to others.

On account of this we may have to divide the prices of articles on our invoices into two parts, viz:

1. The amount for the costume.
2. The amount for the right of reproduction.

This question should be considered in its bearing on Custom House duties.

In order to establish this primary principle, which is of capital importance, and see that it is respected, it would be well to found a Syndicate office which shall send each season to every customer of our houses a sort of license (the form of which should be changed each season) giving him the right of reproducing the models specified thereon.

To give our customers this license is to entitle them to a confidence which flatters them, and to invest them with great prestige in the eyes of their clientele.

It is equivalent to binding them to buy from us, and to creating among them a profitable emulation, since each will desire to prove that he is the depository of a greater number of Paris models than the others.

It is equivalent to giving to all their customers a guarantee, by proving to them the genuineness of the models shown to them.

It is equivalent to threatening and paralyzing counterfeiters and protecting ourselves at the same time against second-hand or third-hand reproduction which robs our creations of their character and jeopardizes our reputation.[1]

The syndicate's method of approach to the American market in the fall of 1915 is described in the

[1] *New York Times*, January 23, 1916.

following excerpt from the Paris correspondence of a New York newspaper:

Under the Presidency of Paul Poiret and the Vice-Presidency of Jacques Worth, with Philippe Ortiz as the American representative, the houses of Callot, Doucet, Lanvin, Jenny, Worth, Bianchini-Ferier, Bremet and Poiret will inaugurate a striking campaign with new methods in New York, which is the only great market comparatively unaffected by the war. They are sending a collection of eighty models (ten from each house) on the Rochambeau, leaving tomorrow, to be exhibited at the Ritz-Carlton on November 22 in a half-hour, one-act comedy in English, written by Roger Boutet de Monvel, son of the famous artist, who also sails on the Rochambeau to superintend the mounting of the piece.

The comedy is entitled "Talking Rags," and is written around the return of a young American heiress from a visit to the Rue de la Paix with her chaperon. She describes her purchases to envious friends, thus creating the opportunity for the introduction of the names of the houses belonging to the syndicate and the various models which will be worn by American actresses. Mme. Raimonde Fernandez, described as the best-dressed woman in Parisian society, sails on the Rochambeau in charge of the dresses, which represent a high mark in French creative art. All the models are new, and represent the masterpieces of the eight houses.

Although the styles conform generally to those shown here in August, there are several striking new features, a further advance toward crinolines being one of the most notable. There is also a successful rehabilitation of the charmeuse frock by Bianchini-Ferier, the creator of this particular style.[1]

Manifestly it was German rivalry which brought about the formation of the syndicate and it is German competition which is feared. But the episode can not be said to reflect an air of confidence on the part of the couturiers in the security of their position as dictators of fashion.

[1] *New York Times*, October 24, 1915.

CHAPTER XII

STYLES AS A FACTOR IN THE MARKETING OF WOMEN'S PIECE GOODS

2. Styles and the Manufacture of Cloth

EVEN before the couturier's openings in Paris, the American manufacturer of woolen and worsted dress goods works out a forecast of the season's main tendencies, based on last season's successes combined with the visible new influences. This he does through "mill stylers" who, after securing swatches of as many fabrics as possible, and studying them carefully in the light of past experience, finally make recommendations as to what they think will be the essential features of the fabric designs for the season. These various suggestions are carefully sifted by the mill owner, or by the commission house in case his designing is done for him. Eventually he decides which out of several hundred suggested designs he will try. He is obliged to decide also how much he shall modify them or tone them down to meet American taste. Moreover, he is compelled to calculate the speed with which the garment styles to which they are adapted will spread, and just how much also the garment styles will be modified before they become generally adopted in this country. To be a little ahead of the adoption of a new style is as bad as to be a little behind it. But, as we have seen, the manufacturer's decision as to his fabric styles for the season must be reached from nine to twelve months in advance of the season for which they are designed.[1]

[1] Heavy weight men's wear fabrics are usually styled in October to December and opened for the following winter in January and February. Thus the openings of the winter of 1916 were made in January, Febru-

American manufacturers "open" their lines every six months, about February first for heavy weight goods, and August first, for light goods. These openings occur incredibly soon after their style forecast has been confirmed or refuted by the Parisian couturier's showing, as reported by cable. The season's prices on staple and fancy products are then announced, and either through salesmen or at salesrooms, or more often both, the mill displays its samples of fifty or one hundred, or, in the case of large concerns, as high as several hundred patterns for novelties. Many of these patterns they know will be failures, but some of them they hope will be "good sellers."

In the case of men's fabrics, style suggestions come mainly from London. Mill stylers and style sample sellers supply American concerns with style suggestions in great quantities. The selling agent of the mill starts to work on the new styles for the next season before one season is over. He takes all the foreign samples he can secure; he draws to a certain extent from the experience of the past season, and introduces any original ideas he may have and makes up a line of samples. Of these he has the mill manufacture "blankets" or short pieces which he circulates among those upon whose judgment in such matters he can rely. From among the "blankets" which are most favorably considered, he makes up samples. A large mill may make up 200 or 300 "blankets" and select out of these 40 or 50 as the lines which will be offered to the trade. After the number of lines has been reduced to the lowest possible figure, the Company "opens" its season and the samples are taken out to the cutting trade by salesmen.[1]

Just what determines the selling properties of a design remains a mystery to the wisest dress-goods

ary, 1916. The showing of dress goods by the large manufacturers of staples and semi-staples would be only a month or so later than the openings of men's wear fabrics. It is true that quite a number of the small manufacturers of fancy goods may open their lines no earlier than jobbers which would be two to three months later than the manufacturers' openings. The openings of dress goods for the light weight season would be during July or August.—Editor of a textile trade paper.

[1] Statement of secretary of Manufacturers' Association.

designer. Two designs may be identical except for some trifling difference in structure. One may be a good seller while the other fails to move at all. A design which has started being a good seller may give way in mid-season to a pattern which had shown no life at all in the early part of the season. This risk of failure to sell in the case of fancy fabrics cannot be reduced to anything like a safe or economical minimum. The successful fabrics, therefore, are obliged to carry the cost of the failures.

How the Fabric Maker Keeps in Touch with Style Developments

While the fabric maker is trying to forecast the season, the cutter is struggling with both fabric and garment style problems. His forecast does not have to be finally decided upon quite so far in advance of actual sale as that of the fabric maker, but it is still so much ahead of the season that his risks are heavy.

Dress-goods importers, representing foreign mills, are opening their lines side by side with those of the domestic mills, about August first for the light weight or spring season, and about February first for the heavy weight or winter goods season. They have, perhaps, some disadvantages in the fact that their goods must be produced even earlier than the American fabrics, but this is partly compensated for by the high prices they receive, and the more exclusive character of the greater part of their trade.

The consuming public, meanwhile, has had put before it stories of radical changes in fashions. Both by cable news and by the syndicated fashion articles they have been led to believe that one new idea or another is to prevail. "They are wearing," in Paris, "this or that,"— is accepted with no more skepticism than a crop report. The fashion magazines and the makers of paper patterns for home use further prepare

the public for the new changes. As a result, when a style is adopted, it is adopted practically everywhere at once. Formerly there were dumping markets in the remote sections of the country which would absorb the fabric manufacturer's bad ventures. But now a dead style is as dead in Nevada as it is on Fifth Avenue. The dumping outlet is gone.

A few months after the fabric lines are opened come the early showings of the cutters, followed one to three months later by the openings in the department stores for ready-to-wear garments, and incidentally for fabrics. Direct importations from Paris, garments made by cutters on the store's own designs, or secured from the cutter as his creations, are put on view in the more progressive department stores in all parts of the country. These exhibitions usually appear in New York, other eastern cities, and Chicago, about February first for the lightweight and about the middle or last of July for the heavy weight season. These showings, interpreted by the comments and the actual sales which follow, become the basis for the department stores' initial orders to the cutters for ready-to-wear garments and to the mills for over-the-counter fabrics.

The opening of fabric styles is a comparatively simple matter. There is a good deal of design piracy, to be sure, but with ordinary care a fabric manufacturer may at least secure credit for originating a design and take the cream off of the high price market before his competitors have time to steal his idea.

In the case of garment styles, however, design piracy is more serious. A garment design may be copied in a few hours. This has been a serious obstacle in the way of introducing open competitive methods into the women's ready-to-wear clothing lines. If designs were protected, manufacturers could display them earlier, they could conduct their selling operations more deliberately, and they could publicly open their

styles to buyers with great mutual profit. As it is, garment-makers usually have their own private showings and scrupulously exclude all except bona fide buyers whom they can trust.

Efforts to Improve Conditions

During the past few years an effort has been made to improve conditions by holding style shows in New York each season at which Paris importations and American garments were displayed exclusively to buyers for retail stores. When the first of these was held in July of 1913, not even the representatives of the exhibiting manufacturers themselves were admitted. In subsequent shows this rule has been somewhat modified. It was designed, however, to correct some of the evils attending previous shows held in 1909, 1910 and 1912, which were opened to the general public. This show differed from its predecessors chiefly in being a showing in advance of the real season and in being a display exclusively of women's wear.[1]

In addition to these pre-season shows for buyers, style shows for consumers have become common in all the chief cities, and moving picture theatres now quite generally display style films.

It is evident from this discussion of style influences that fancy fabrics are most affected. Staple fabrics, of course, are not subject to quite such violent variations in demand, but even staple fabrics are by no means free from some of the worst effects of style change. In some seasons they are directly affected because fashions may swing toward staple fabrics and away from fancy fabrics or vice versa, thus rendering uncertain the actual amount of the fabric to be produced.[2] Fluctuation in color styles produce, in

[1] *Women's Wear*, July 25, 1913.

[2] "Every manufacturer endeavors to take a plain material and change it in some form so that it approximates to the going thing whatever it may be." Statement by a style expert.

many fabrics, an effect entirely similar to those produced in fancy goods by shifts in the popularity of given designs.

The effects of style changes upon the work of the cloth manufacturer are partly direct and partly indirect. They are direct, as we have seen, in that they determine what he is to make, and how much of it. They are indirect in that they affect at times many of his methods of doing business. The direct effects are numerous. We have already discussed some of the ways in which style determines what the manufacturer is to make. The fact that style also determines quantities as well as character of production may be seen in the following illustration.

An Illustration of the Direct Effects of Style Changes

A change in fashion effectively reduced the total consumption of women's dress goods in the season of 1910, as compared with 1909. In 1909, the prevailing style of women's skirts was wide, and coats for women's suits were cut fairly long. As a result it took from five to five and one-half yards of fifty-four inch goods to make a woman's suit in a factory, where the wastes of cutting are reduced to a minimum. Any woman, buying the goods over a retail counter to be made by her own tailor or dressmaker, required from six to six and one-half yards to make a similar suit. In 1910, narrower skirts and short coats were the prevailing style, so that three and three-fourths to three and seven-eighths yards were sufficient for making a ready-made suit while from four to five yards were ample for purchase over the counter. At the same time there was a distinct shift in the character of the demand for woolen and worsted fabrics to corduroy and other pile fabrics, which, during several years previous, had almost dropped out of the trade. It was estimated at the time that these two factors alone — the smaller amount

of goods required and the different character of goods in demand — caused the market for the more common types of woolen and worsted dress goods to be reduced by not less than 40 per cent.[1]

Under ordinary circumstances, it seems quite probable that at least a portion of this loss might have been shared with the cutting trade in the form of a stiffening of contract prices for fabrics, which would have been partly compensated for by the smaller amount of cloth necessary for a suit. But it happened, in this particular instance, that there was a strike in the cutting trades in New York, so that the shrinkage in the total returns from the sale of cloth fell almost entirely upon the mills. The prices of the cloth to the retailer, and even to the jobber, were kept about the same, while the cutter, contending that his costs were increased by the strike and by the terms of its settlement, made no reduction in his prices for suits and cloaks to correspond with the reduced amount of cloth used. Thus, most of whatever advantage accrued from the reduction in the amount of goods required went to the cutter, or through him to his factory hands. A woman buying piece goods and making her own clothes or having them made for her, secured some advantage from the smaller quantity of goods necessary to buy for a suit. If this style change had taken place ten or twenty years earlier, before the cutting trades became so large an element in the production of women's clothing, it is interesting to speculate whether the result would have been the same. Under those circumstances, for instance, would a return to wider styles have been more difficult than it actually was? In other words, could the amount of cloth used in a suit have been as easily restored to its old level without an accompanying reduction in the price of piece goods per yard? The situation of 1909 and 1910 was

[1] *New York Journal of Commerce*, February 4, 1911.

extreme, of course, but it serves to illustrate what takes place, to a greater or less extent, in one form or another, in nearly every season.

The following from the *Boston Transcript* gives the version "for public consumption" of the cutters' part in restoring wide styles again after the outbreak of the war had made such havoc in textile circles that some artificial increase of fabric consumption became inevitable:

Toledo, O., Dec. 4.— Women are not going to wear tight skirts any more, according to fashion's decree for next spring and summer. The makers of American styles for women have decided upon that one point and are going to confirm their decision at the twenty-fifth semi-annual convention of the National Cloak, Suit & Skirt Manufacturers' Association, which will open here to-day. Statements made are that women will wear tailor-made suits with plenty of plaits in the skirt when they start out on their Easter morning display of finery.

Styles will be much more severe and practical. The coat must be short — about twenty-four inches — with ordinary sleeves and of a plain, quiet color. Skirts will be about six inches from the ground. If single coat is preferred to wear with skirt and shirt waist it shall be full from the waist down, with belted effect and patch-pockets.[1]

The same change had been described by trade papers several months earlier. The *New York Journal of Commerce*, for example, contained the following on August 12, 1914.

It is estimated that the long coats and the styles of skirts that are going to be worn during the coming fall season will require 20 to 25 per cent more dress goods than was the case last fall.

Fall garment styles seem to be pretty well established after a great deal of shifting about, which kept the ready-to-wear trade in suspense for an unusually long period. The inability of the suit manufacturers to say definitely what styles were going to have the call made it difficult for them to keep their workrooms running in a normal way.

[1] *Boston Transcript*, December 4, 1914.

The doubts that surrounded the fabric style situation was another matter that disturbed business in a marked degree. With both of these questions settled, at least so far as it is possible to settle a style question when fashions change so rapidly as during the past year, garment manufacturers are going ahead with their fall plans with some degree of confidence.

The increased yardage is welcome news to most dress goods producers. Others are not elated because they contend that under the new conditions they will not be able to procure as wide a distribution as formerly. Of course, such cases are exceptional. Most of the dress goods houses are going to benefit materially, both on account of lack of foreign competition and the increased use of dress fabrics.

Indirect Effects of Style Changes

Besides these direct results of style changes, affecting the character and the volume of production, there are certain indirect effects upon the distributing mechanism. The chief indirect effects are those which have grown out of the exaggeration of the real style influences. This has introduced into cloth distribution elements of uncertainty, panic and fear, which have further demoralized an organization already badly disturbed.[1] The large-scale buyers, including the cutters and the department stores, are in many cases, by virtue of their mere size alone, able to drive a skilful bargain with the mill or selling house. An increasing portion of the piece-goods trade is thus deprived of the equalizing influence of the wholesaler. But these large-scale direct buyers are also completely at the mercy of style influences. With the increase

[1] "A fashion in fabrics aided in making the year 1908 notable in worsteds for men's wear. The production of resist dye goods gave ample opportunity to manufacturers to bring out new colors and new goods in quantities sufficient to tempt buyers at a time when the congestion was almost complete." At best, however, it could not do more than mitigate a bad situation.—*Annual Report, New York Chamber of Commerce*, vol. 51, p. 99 (1908).

Resist dye fabrics lost popularity and caused a wave of cancellations soon after the opening of an unusually brisk light goods season. Woolens began to show popularity in May.— *Annual Report, New York Chamber of Commerce*, vol. 52, p. 96 (1909).

of contract and direct buying and the greater uncertainty of the buyers as to what to buy, the time allotted for the processes of manufacture is being continually shortened and the peak load in production is being intensified. Even within the last five years there has been a material lengthening of the time between the manufacturer's openings and the heavy purchases from the cloth-maker by the cutter. The large retailer also postpones till the last moment his direct purchases both from the cutter and from the cloth-maker. "Hand-to-mouth" buying has become a marked trade evil. The result is that during the early part of the season the fabric-makers do scarcely any business at all, having their mill staff in the fancy goods department partly or wholly idle, and being afraid to let them go for fear the rush may come any day. During the later part of the season, on the other hand, the mills are choked with orders. Neither condition is economical.

The cutters are in somewhat the same dilemma. The forced delay in their purchases, has, of late years, become a burden which materially increases the cost and decreases the efficiency of factory operations. The gravity of the situation is augmented whenever the style risk is complicated by anticipated financial depression.

Possibility of Improving the Existing Conditions

A season for the cloth-maker, which is made up partly of helpless and idle waiting, and partly of working on double or triple shift, is unsatisfactory and costly. His overhead costs are increased by his enforced idleness, and at the same time the risk of claims against him for imperfections in goods (sometimes justified and sometimes not) is materially increased by the forced pressure at which he must turn out his season's output. In former years he might have filled up his idle

season by running, even on novelty fabrics, with at least a gambler's chance of being able to "dump" them, if nothing better. With the dumping market gone, however, novelty fabrics made, but unsold, are apt to be a total loss.[1]

About the only remedies open to the cloth manufacturer are: (1) to attempt by concerted action with other manufacturers to minimize the abuses which have crept into the trade, or, (2) to reorganize his whole selling organization so as to secure a safer admixture of "regular" and contract sales, or, (3) to put up the price of his product.

The cloth-makers also feel sharply the effect of style influences upon the standards of consumption. Violent fluctuations of style, and the wide and quick spread of style knowledge, have caused a more rapid deterioration of each particular style. Fabrics are seldom worn out in the form in which they are originally made up; the style becomes obsolete while the fabric is still good. Furthermore, the increased manufacture and purchase of ready-made garments has diminished the practice of making over clothes at home or by dressmakers. There is at present more incentive on the part of the consumer to buy stylishly-made ready-to-wear clothes, regardless of poor-wearing fabrics. Since the fabric so long outlives the style, the question naturally arises (particularly in large city markets) whether the cheaper fabrics will not answer the purpose quite as well as more costly ones. There is reason, therefore, to anticipate a distinct tendency to increase the annual consumption of the cheap fabrics, in which the manufacturer's chance for profit and the manufacturer's pride in making are considerably less then they are in higher grade goods.

[1] "Travel, reading fashion magazines and the fashion pages in daily and weekly papers have lessened the opportunities for disposing of old-fashioned weaves, weights, designs, colors or even widths of a given material."— Statement of a style expert.

The principal effects of this intensified style influence and the consequent demoralization of the distributing organization may, in general, be said to be: (1) the cost of manufacturing and distributing fancy woolen and worsted fabrics is higher than ever before; (2) there is at the present time proportionately less high-class business from which to get high profits; and (3) high prices for shorter lived fabrics have virtually become necessary for the protection of the manufacturer.[1]

As to the remedies for the situation, it seems probable that in the natural course of events there will be an ultimate exhaustion of the consuming market's interest in the frequent recurrence of the struggle for newness. Perhaps there may be a sober returning to the saner purchase of more conservative fabrics of more conservative cut, and less emphasis upon novelties both in garment design and in fabric design. Or perhaps there may develop a more independent and more intelligent individualization of women's dress.

Meanwhile, a few lines of betterment are open to properly organized associations of cloth-makers, cutters, and large buyers, probably working independently of each other as far as operation is concerned, but combining on their common interests.

Lines of constructive work which such associations doubtless could undertake, would include such matters as:

1. The suppression of misleading and exaggerated style information. This would have a wholesome

[1] "The increase in ready-to-wear has increased the risk of the woolen manufacturer. For example, the maker-up visits Paris quarterly, gets a new style, brings over the model garment, and quite often imports enough to make up a given number of suits; these are shown to buyers, and thus there is greater risk for the manufacturer in running on a given staple and piling up stock.

"This makes it necessary for the woolen manufacturer to have a competent designer closely in touch with the style developments in New York and Paris. Quite often a given style goes out of fashion in a short time and the manufacturer is obliged to dispose of his holdings at a loss."— Statement by style expert.

effect all through the market and would eradicate some of the most costly and inexcusable difficulties in cloth distribution.

2. The development of sounder methods for getting styles adopted by the trade on this side of the Atlantic. This would involve a conservation of the constructive work of the Parisian couturiers without the evils of exaggeration. It might be done, perhaps, by some form of concerted action designed to minimize the abuses of the present methods, as, for example, by style shows instituted and carried out in such a way as to guarantee the preservation of the best, and a minimizing of the worst features of style exploitation.[1]

3. The adoption of vigorous and enforcible codes of ethics and practice in relations between buyers and sellers, so that the result of any error in anticipating the course of styles cannot be shifted to other shoulders than those of the man responsible for the error. This includes, of course, the protection of contracts and a raising of standards of honor and morals in the matter of claims and collections.

4. The prevention of style pirating for either fabric or cut. If this had no other effect, it would make it possible to have style showings earlier in the season, and thus would go a long way toward eliminating some of the most costly of the present troubles in the distributing of fancy piece goods. In France, designs of this kind are as vigorously protected by law as are patented inventions or copyrighted books.[2]

A great social change like the general spread of a simple-clothing cult would, of course, be the most direct, although it is the least probable, method for solving the

[1] *Infra*, ch. XVI.

[2] The American Association of Woolen and Worsted Manufacturers, The National Cloak, Suit and Skirt Manufacturers' Association, and other organizations, as well as certain private enterprises, such as the *Dry Goods Economist* of New York, are addressing themselves with much ability to these and similar problems.

difficulty. For instance, a general spread of the wholesome doctrines of the Quakers might, in a comparatively brief space of time, put the whole business of manufacturing woolen dress goods on an entirely new basis. But this seems hardly within the realm of probability.

Another equally improbable, but, at the same time, apparently sane method of solution would be for the millions of women, who economically have no business to try to follow fashion, to adopt something like standard types of dress. This would throw the burden of the cloth consumption for a large part of the population upon the staple products and cause trade in fancy fabrics to shrink to relative unimportance. Neither of these solutions is likely to come to pass.

CHAPTER XIII

THE READY-TO-WEAR CLOTHING INDUSTRY AS IT HAS AFFECTED MEN'S PIECE GOODS

THE discussion in the foregoing chapters establishes the point that the artificial intensification of the style factor in demand plays an important part in most of the selling problems of the cloth manufacturer.

Two changes in the methods generally employed for distributing cloth have had, as has been pointed out, the effect of spreading style influences more widely and rapidly than ever before, and of making increasingly difficult the cloth-maker's attempts to anticipate them. These two changes are the growth of the ready-to-wear clothing industry, and the rise of large-scale retailers. The former of these has been the more important in its direct effects.

The manufacture of ready-to-wear clothing for women developed later than the corresponding industry for mens' clothing, and has in fact drawn most of its forms and methods of operation from this older branch of the cutting trades. It will therefore be necessary to outline the steps in the development of the men's clothing industry before undertaking a discussion of the effects of the cutting trades upon the sale of either men's or women's piece goods.

Importance of the Men's Cutting Trades

The greater portion of the men's piece goods now made in this country is sold to clothing manufacturers. The tailor's woolen trade, to be sure, still remains an

important outlet for the mill's product, but most of the woolen and worsted fabrics for men's wear are made up by the cutters and sold to the consuming public as ready-to-wear clothing.[1]

The development of the factory system for producing men's clothing has had many important effects on the selling problems of the woolen mill. These problems have become more complicated from year to year as the development of the cutting industry has progressed.

The factory system for manufacturing men's ready-to-wear clothing began to develop soon after the invention of the sewing machine.[2] An impetus was given the industry by the westward movement of population. Ready-made clothing of various sorts was an important part of the outfits of pioneers and of their purchases in their new homes. During the decade from 1850 to 1860 the industry grew rapidly, and by 1860 it was particularly important in New York City.

A report on this industry in New York, issued in 1858,[3] says:

[1] "The clothing manufacturer is a wholesale buyer of the products of the mill, and the greatest part of the cloth produced by the mill in men's goods and a very great part, if not the greatest, in women's cloths reaches the consumer only through the medium of factory-made garments.

"How true this is of the men's clothing industry, is shown by the fact that as far back as 1900 the output of men's clothing as a factory product was valued at twice the custom product. To the great body of consumers the factory product is of even more significance than the above ratio might indicate, since the value of the custom-made product is the result of relatively high prices per garment as compared with factory-made clothing.

"It is more difficult to show by the figures the relative importance of the factory product in women's clothing as compared with the output of the ladies' custom tailor, the dressmaker, and the home. But every successive census has revealed a remarkable growth in the women's clothing industry, indicating that in a great measure the factory industry is coming to hold for women's wear the place it now holds for men."—*Tariff Board Report on Wool and Manufactures of Wool* (1912), p. 845.

[2] Elias Howe completed his first successful machine in 1844 and secured his chief patents in 1846.

[3] *Annual Report of the New York Chamber of Commerce* (1858), pp. 38 and 39.

If correct comparative figures could be made of the various branches of manufacturing trade of New York, it would be found that the clothing trade has, in a space of thirty years, increased in much larger proportion than any other whatever. It is a fact, susceptible of demonstration, that one house alone gives employment to more hands, at this moment, than were employed by all the houses in the wholesale clothing trade thirty years ago, say two thousand hands.

The same report gives the number of persons employed in the city and vicinity as nearly 32,000 persons, one half of whom were women. There were in the city at that time (1858) 130 clothing establishments of "character and standing, beside a large number of small retail concerns, not herein enumerated." Of the clothing establishments, forty were classed as wholesale concerns.

It is further declared in the report that the aggregate business of the twenty leading wholesale houses was $15,000,000 per annum, and of the remaining twenty, $5,000,000. Of the ninety other concerns there were a number who manufactured here for their establishments in large cities of the South and West, some to the extent of $200,000 or $300,000.

The following summary is given of the value of products of the clothing industry of New York at that time.

20 of these whose business will average $125,000	$ 2,500,000
70 of these whose business will average 40,000	2,800,000
Unenumerated retailers, say	1,700,000
Wholesale, as above	20,000,000
	$27,000,000

Among other interesting facts the report states that the average wage of cutters was about $13 per week and of tailors about $9 per week, while women and young girls earned an average of $5 per week.

About two-thirds of the trade was done with southern states. There was also some trade to South American republics and to the West Indies. But

tariffs were prohibitive in many of these countries. The amount in value of foreign fabrics used was more than one-half of the total employed.

The wholesale clothing trade of New York was declared to be more than double that of Boston, Philadelphia and Baltimore combined. This was said to be due to the sagacity of the leading houses "who have given great attention to and spared no expense in improving the character and style of their manufactures; so that everywhere throughout the country New York-made clothing is popular over all others for the superiority of its make, and for the taste and neatness of its style."

The report states finally that the introduction of machinery had increased the capacity of the industry, but that there had been no decline in the manual labor demand.

The really phenomenal growth of the portion of the men's clothing industry which was concerned with the manufacture of woolen clothing began after the close of the Civil War. At that time a number of uniform contractors began the manufacture of civilian clothes. Since then the growth has been continuous and almost incredibly rapid. The development of the industry has been accompanied by a series of inventions by means of which most of the mechanical difficulties have been overcome. Then, too, the serious labor troubles encountered have been met by some noteworthy experiments in organization which, in the main, have bettered labor conditions.

Following the Civil War there was a period of five or six years when the demand for men's ready-to-wear clothing grew much faster than the factories' ability to supply it. Soldiers returning from the war were accustomed to overlooking minor defects in the fit of a ready-made garment, and the price advantage of the ready-made suit over its tailor-made competitor was

large. Again, the scarcity of labor for clothing factories was serious, and these manufacturers found it difficult to turn out clothes fast enough. About this time, however, the Russian Jewish immigration movement began to be heavy, and soon after 1870 three types of tailoring establishments employing this kind of labor are described as existing in New York City.

(1) Inside workshops;

(2) Outside workshops;

(3) Contract concerns who let out work to be done either in shops or in houses.

The first type of concern soon took over much of the high-grade business where skilled tailoring counted for most, while the medium and low-grade business was shared between the other two.[1]

This gradual solidification of factory organization into well-recognized forms was accompanied by some tendency to specialization. Pants-making became the most conspicuous special trade, but there were concerns also which specialized in coats and in vests. The high-grade, inside workshops more often kept to the making of complete suits.

The cutting machine, invented in 1875, reduced to about one-seventh the amount of time necessary for cutting out the various parts of a suit. Moreover, the labor that was saved was the most expensive type of labor put into a suit. This machine made possible a great increase in production speed. The various sewing operatives were no longer able to work faster than the cutters. This advance in production equipment led also to the development (1876-1880) of the team-work system in which an operator, baster, and finisher worked as a unit. This in turn became the basis of the sweating system, which was, in effect, team speeding.

In 1881, after the assassination of Alexander II, there was a great influx of Russian Jews into New York.

[1] See J. E. Pope, *The Clothing Industry in New York.*

These people were well-adapted to outside shop work, and took more kindly to this than to other kinds of city work, or to rural employment. Moreover, a number of the earlier immigrants from this race had become clothing contractors. They could offer the newcomers plenty of work, and the newcomers furnished them a good supply of cheap labor.

During the next twenty years the factory clothing industry was characterized by various improvements in mechanical equipment which opened the way for successful large factories. Improved cutting machines, button sewing and button-hole machines, machines for barring the corners of pockets, were among the new devices. The perfection of the small electric motor finally increased the availability of these machines for economical factory use.

Two other influences were important in changing the form of organization in this industry from a shop into a factory type. The first was the development of the "Boston system" of division of labor which substituted for the old team system a series of finely subdivided processes. The making of a coat, for example, became a series of over one hundred separate steps performed on a factory basis. The other influence was the series of increasingly vigorous state laws beginning with the Massachusetts Anti-sweating Law of 1892, aimed to control the conditions under which clothing was made. These laws made outside work less profitable and stimulated the development of the factory type of organization which the mechanical improvements had made possible.

The unionizing of garment factory labor by the formation of the National Garment Workers of America (and of the National Garment Workers' Union) in 1894 indicates the completeness of the transfer of a large part of the industry to a factory basis.

Although it is evident that the size of the ready-to-wear woolen clothing industry has increased, and that the methods of organization are now quite different

from those employed in previous years, yet no exact statistics on the matter can be gathered either from the census figures or from trade directories. The most serious difficulty with both sets of data is that the portion of the men's clothing industry with which this study deals (the portion using appreciable quantities of woolens and worsteds) is combined with many others which use little or no woolen fabrics. Our interest is chiefly with the men's and boys' suit and overcoat industries which are the principal branches of the men's-wear industry using wool fabrics. Therefore, figures which combine these branches with industries producing men's shirts, pajamas, bath robes, and other products lose most of their value for our special purposes.

Some Characteristics of the Men's Cutting Industry

A few general characteristics of those industries which interest us particularly may be indicated even if there are no figures to confirm them.

(1) The men's clothing industry is an urban industry. Almost without exception these goods are made in large cities where advantage can be taken of outside shop help, abundant labor supply, and adequate marketing facilities — all of which more than offset the disadvantages of high city rents.[1]

(2) The industry is largely concentrated in New York City, which in 1910 produced one-third of the output of the whole country. Four or five other centers of importance are rapidly increasing their relative share of the total.

The census of 1910[2] gives the following figures for men's clothing, including shirts, vests, nightshirts, pajamas, etc. Total value of production in 1905, 355 million dollars, in 1910, 485 million dollars.

[1] *Report of the Tariff Board on Wool and Manufactures of Wool* (1911–12) p. 847.

[2] Quoted in *Tariff Board Report*, p. 847.

	Per cent of value of product	
	1905	1910
United States	100.0	100.0
New York	38.5	40.3
Chicago	15.0	17.2
Baltimore	5.5	6.0
Philadelphia	5.1	4.5
Rochester	4.2	3.9
Total for five cities	68.3	71.9

(3) The industry is in a measure specialized by localities. Chicago and Rochester have developed several very successful factories producing high-grade clothing. Some of the most widely known factories producing trade-marked clothing for men are located in these two cities. New York, Philadelphia, and Baltimore are more largely engaged in the production of medium and cheaper grades of clothing. Chicago is also the chief center of the men's mail order clothing trade.[1]

These three points are established by the census figures. These figures, unsatisfactory as they are for our purposes, are in a measure confirmed by the following table compiled from a count in a recent trade directory[2] of the firms engaged in manufacturing men's ready-to-wear woolen and worsted clothing:

	New York	Chicago	Baltimore	Boston	Brooklyn	Cincinnati	Cleveland	Philadelphia	Rochester	San Francisco	St. Louis
Men's clothing	236	60	42	32	..	12	11	34	24	8	5
Overcoats and raincoats	20	..	..	..	1	..	..	..	1	..	..
Men's and boys' clothing	13	6	..	..	..	10	..	3	..	..	4
Clothing and raincoats	10	5	..	..	..	3	..	1	..	..	..
Clothing and overcoats	20	14	..	..	1	3	..	..	..	..	3
Boys' clothing	127	10	7	4	..	..	..	11	..	..	..
Pants	97	17	22	4	..	..	7	19	1	10	14
Knee pants	32	..	..	2	2	..	..	..	..	..	..
Pants and knee pants	5	..	..	..	..	..	..	..	..	2	..

[1] *Report of the Tariff Board on Wool and Manufactures of Wool* (1911–12) pp. 847, 848.

[2] Sheldon's *Directory of the Manufacturing (Cutting-up) Trade*, 1912.

The form of organization in the men's clothing industry is what might be expected from the process through which the industry has developed. Most of the industry still depends on a certain amount of "outside" work, although there are a few instances of large factories which are practically self-contained. In the case of some of the large, newer type factories the amount of outside work is negligible. In most of the trade, however, it is an important feature of the business.

The *Tariff Board Report* describes the organization of the men's clothing trade as follows:

> In the method of carrying on the manufacturing processes, the clothing industry is characterized by extensive use of the contract system. Particularly in New York, the typical wholesale clothier can hardly be considered a manufacturer. He purchases the cloth and trimmings. The examining and sponging are attended to for him by an independent concern at a fixed price per yard. The material is cut up on his premises, but the actual work of making up the garment is let out to contractors at a fixed price. The contractor receives the cut-up material and returns the completed garment. The contractor rents his own factory and employs his own help. The contract system is most largely used in New York, but it exists in every clothing center. Firms engaged in the production of higher grades of garments usually manufacture most of their product in their own shops. Few of the firms visited in this investigation, however, made up all of their output in their own establishments. While the contract system is used most extensively in the production of the cheaper grades of clothing, it is employed in the manufacture of all grades of garments.[1]

Commercial Aspects of the Men's Cutting Industry

The commercial problems of the "cutting" industries are mainly centered about the style risks. In men's clothing the styles are determined in a general way by the manufacturers' study of style influences and

[1] *Tariff Board Report on Wool and Manufactures of Wool* (1911-12) p. 848.

market conditions. The variations from year to year are slight, but important, and local influences in the various parts of the country determine the local "expression" of the general style. The leading men's tailors go to London twice a year for ideas, but as a rule the manufacturers work out their general style ideas here in a large measure from suggestions brought in by their salesmen or local agents.[1] The style risk, though not so heavy in the men's ready-to-wear industry as in the women's, is important enough to cause great anxiety at times.[2] When commercial conditions

[1] *Supra*, ch. XII.

[2] An extreme instance of style change in men's wear occurred in the summer of 1914 when "Palm Beach Cloth" first became popular. The *New York Journal of Commerce* (July 24, 1914) comments on the situation as follows:

"So called Palm Beach, or sometimes Panama, suits for hot weather wear are now being advertised in the large department stores of New York for $6.50. This is a sale price, the regular cost being $8 to $10.

"The beach cloths, as they are known in the woolen industry, have proved to be the sensation this season in that tariff distressed trade. The manufacturers in larger numbers are putting out great quantities of this cloth made of wool and cotton or mohair and cotton. Some of the clothing manufacturers, it is said, cannot get enough of it right now. One such manufacturer here in New York is reported to be turning out 1,000 suits a day and then could sell more.

"Now these are seasonable garments, the male part of our population, which has always been notoriously conservative about departures from the old established ideas of dress, having finally awakened to the fact that this is a hot climate for several months of the year, and clothes could well be lighter than they have been. The Palm Beach suits, it is more than likely therefore, are here to stay.

"The question then arises if American manufacturers of woolens can manipulate so successfully in producing a cloth that gives universal satisfaction for summer wear, what may happen when one of them starts to work on an article at a low price for general year round wear? The high cost of wool at present, with the probability that it will not be much lower for many years to come, is the incentive for just this kind of branching out in new fields. . . .

"Similarly in woolens it may not be a rash guess to say that the experience gained by our manufacturers in manipulating various yarns so that such a popular product as beach cloths result, will prove of importance in the future of that big industry, whether protection is high or low. It has always been the claim of the domestic manufacturers that their English competitors were experts at manipulating their production so as to bring out cloths that could sell at a price and beat other products of this country. Added experience along the same line may raise the spirits of American manufacturers, just now depressed by low duties."

are bad, it is made to assume some of the responsibility for bad business methods or low ethical standards.

The purchase of cloth introduces the first step in the style problem. The *Tariff Board Report* brings out the following point about the importance of woolen cloth purchase in the men's clothing industry:

> Of the essential materials that enter into the garment, most important by far is the cloth. In the ordinary sack suit there is used between 3¼ and 3⅔ yards of cloth, the cloth being 54 to 56 inches wide. The amount used varies according to the pattern and according to style. The usual yardage is 3½ yards, of which approximately 1¾ goes into the coat, 1⅓ into the pants, and about two-fifths into the vest. The short spring and fall overcoats take 2¼ to 3 yards. Subsequent analysis will show the importance of the cloth cost in the total cost of the garment. It is sufficient to say here that the cost of cloth is on the whole the largest single item in the manufacturers' cost. It is only when high-grade clothing is reached that this item of cost is exceeded by the manufacturing expense.
>
> The bulk of the cloths used in ready-made clothing sell net at between 65 cents and about $1.50. Both lower and higher priced cloths are used. Details of the relation of the cost of cloth to the price of the garment are given in exact figures in a later table.
>
> Besides cloth there enters into the production of clothing a great variety of material — woolen, cotton and linen. An analysis of a coat made by a New York firm to sell at $10.80 net and for which the consumer pays between $15 and $20 shows that under the head of trimmings between 20 and 25 items enter into the manufacture of the coat, 15 into a pair of pants, and 12 into a vest. Eliminating such items as are the same in each garment, there are included in the trimmings of a popular priced suit, about 40 items, different either in kind or in price. Of these only a few are significant from the point of view of cost of the finished product.
>
> The largest of these items is linings. Under this head the most important are the linings used for the inside of a coat (exclusive of the sleeves) and for the back of the vest. In most of the clothing, particularly in the medium and high grade suits, this lining is woolen, serge, alpaca, or mohair. From 2 to 2⅙ yards are used, about one-half a

yard being used for the vest, the rest for the coat. In the more popular priced overcoats a woolen lining is used, about 2¾ yards being required. The range of price for such linings is from 30 cents to 50 cents per yard, some running as high as 75 cents. Thus, in a suit selling for $11.66 net, a house doing an extensive business put in a body lining costing 75 cents. Another house puts in a suit selling for $10.80 net a lining costing 65 cents. This lining is an important item in determining the cost of woolens entering into the garment, and may be estimated at between 5 and 6 per cent of the total cost of the garment. To considerable extent such linings are imported.

The only other woolen material used is the woolen flannel forming the under collar. This costs less than 5 cents in a popular priced suit.[1]

[1] *Tariff Board Report on Wool and Manufactures of Wool* (1911), pp. 850–851.

"Cost of Manufacturing clothing 1910. Data for establishments showing separately cost of cloth and cost of trimmings.

(Items of cost expressed as percentages of net selling price.)

Items	Cheap ($8 and under)[1]	Medium ($8 to $15)[1]	High grade ($15 and over)[1] Class A[2]	Class B[2]	Children	Special order	Average
Net sales	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Material cost:							
Cloth	47.1	36.8	34.1	26.6	35.0	33.2	35.4
Trimmings	13.7	17.1	18.4	15.8	17.1	9.8	16.6
[3] Freight	....	....	.2	.3	.1	.1	.2
Total	60.8	53.9	52.7	42.7	52.2	43.1	52.2
Manufacturing Cost:							
[4] Direct Labor	21.0	23.2	23.4	28.5	25.7	25.8	23.8
Factory Exp	1.2	3.3	4.8	5.0	2.9	4.1	4.0
Total mfg. exp	22.2	26.5	28.2	33.5	28.6	29.9	27.8
[5] Total cost of mnfd. clothing	83.0	80.4	80.9	76.2	80.8	73.0	80.0
General overhead exp.							
Selling exp	3.9	6.8	6.3	8.7	7.8	15.6	7.0
General Exp	3.0	3.9	3.7	3.2	5.2	8.6	4.0
Total	6.9	10.7	10.0	11.9	13.0	24.2	11.0
Total cost	89.9	91.1	90.9	88.1	93.8	97.2	91.0
[6] Profit	10.1	8.9	9.1	11.9	6.2	2.8	9.0

[1] For average price of garment sold.

[2] These are two classes of the same grade of clothing. They are distinguished not so much by selling price as by the relative emphasis

The typical cutting house of the clothing industries is characteristically small. The relative amount of its capital is surprisingly low even for small concerns. Much of the cloth is bought on sufficient time to permit of its being paid for out of the sales of clothing. Obviously the whole structure rests on the ready salability of the cutter's product. This salability is modified to some extent in men's wear, and almost entirely in women's wear, by the vagaries of fashion.

Most of the woolen and worsted cloth used by all except the very small cutters is bought directly from the cloth-manufacturer. Most of the trimmings, on the other hand, are bought through jobbers. Thus, some of the style risk in trimmings is shifted by the cutters to jobbers who are able to care for it. In cloth purchases, however, the outlay is so great and the style risk so heavy, that any loss due to misjudging the market would be too great for a dealer to bear. There is no buffer between the cutter and the cloth-maker. If the cutter's customer cancels or repudiates

on cloth and material cost (Class A) as contrasted with workmanship and the consequent labor cost (Class B).

[3] The data are not shown completely under this head, some firms charging freight to general expense, others adding it to the cost of the material.

[4] This entry represents direct labor where the manufacturer has his own shops; otherwise it stands for the direct labor in the cutting room plus the amount paid to contractors for making up the garments.

[5] In making these percentage tables it has been assumed that the elements of cost in stock of finished goods brought forward from the preceding year are the same as in stock manufactured during the year. From the details of cost for goods manufactured during the year there is added or subtracted a proportional amount for increase or decrease of stock as shown by the inventories of finished goods at the beginning and close of the year. In this way an adjustment is made between the output for the year in manufactured garments and the sales for the year.

[6] Profit is used here to denote the balance after deducting the items specified. It does not represent net profits as from the amount shown must be deducted such items as salaries of officers, compensation for services of members of the firm, interest on capital invested or borrowed, and bad debts."—*Tariff Board Report on Wool and Manufactures of Wool* (1911), p. 860.

For a discussion of the relation of cloth costs to the total factory cost of men's clothing, see *Tariff Board Report*, pp. 850–891.

an order for garments the cutter has no alternative but to absorb the loss or, in turn, to repudiate his order for piece goods. In view of his small capital the latter is his most usual course. Most cloth purchases are made by the piece and they are mainly in case lots. If the season progresses smoothly, the cutter is able to reach the end of the season with neither goods nor clothing on hand. If, however, there is any miscalculation of strength or direction of style change, the best made plans fail, and the cutter, as an alternative to bankruptcy, cancels his cloth orders. This has led to a shocking state of distrust and demoralization which associations of cloth-makers and clothing-makers alike are seeking to remedy.[1] In the depressed months of 1907 the volume of cancelations both by retailers and cutters was appalling. Even in normal years there is a great deal of it.

[1] See statement of National Association of Clothiers, Jan. 27, 1913. Also the following case:

"Secretary Treasurer Thomas A. Fernley of the National Wholesale Dry Goods Association has sent the following letter to members of that organization:

" 'Our attention has been called to the question of cancelation of orders, one of our members just citing a particularly aggravating case as follows:

" ' "A concern located in one of the large cities of the central West ordered in February from us a large quantity of coats, giving styles, assortment of sizes, etc., the goods to be shipped on August 1st.

" ' "As is our custom we made up these goods during the spring months, packed the goods and had them ready for shipment to this party, who now cancels the order without explanation.

" ' "The cancelation was made some two or three weeks ago and we have written them upon the subject, protesting against the unfairness of such a cancelation without explanation, but they simply state that they will absolutely refuse the goods if shipped to them."

" 'Doubtless similar cases have arisen in your business and we are accordingly asking for the benefit of your expression and particularly of the means which you have adopted to lessen or prevent unwarranted cancelation of orders.

" 'Our member, of course, understands that he may ship the goods according to the signed order and take legal measures to force the carrying out of the contract on the part of the customer, but in the knowledge that the cancelation of orders is an abuse from which the dry goods trade has suffered for many years it is his belief that an interchange of expression and method employed to correct this evil may be very helpful.' "—*New York Journal of Commerce*, August 7, 1914.

The sales of men's clothing are being made to an increasing extent direct to retailers. Most of the large makers of trade-marked clothes sell through exclusive agencies. Such houses as Hart, Schaffner & Marx, B. Kuppenheimer & Co., Alfred Benjamin & Co., Stein-Bloch Co., sell on this plan. It is quite usual for a retailer to take agencies for several lines, as, for example, one low, one medium, and one high priced trademarked line, and at the same time to sell other clothing which either is unbranded, or which bears a name which he controls.

The branch retail store system is employed by some houses with apparent success. Browning, King & Co. have sixteen branch stores through which practically all their output is sold. There are also a few chains of retail stores which do their own manufacturing, such as Rogers, Peet & Co., in New York City and Talbot & Co., in New England. (Both of these concerns also do some wholesaling.)

The so-called "Tailors to the trade" who have measuring agencies and who execute orders from a central factory have figured quite conspicuously in the trade in recent years.[1] The book houses and the regular mail order houses[2] are said to be doing an increasing business from year to year in clothes ordered by mail.[3]

It is probable, however (although no satisfactory figures exist to show it), that the greater part of the men's ready-made clothing trade of the country is conducted by the "regular" clothing stores which sell clothing unidentified by trade mark or label. This

[1] Royal Tailors, and E. V. Price & Co., etc.

[2] Sears, Roebuck & Co., Montgomery Ward & Co., etc.

[3] "The tailors to the trade make clothes to measures that are supplied by retailers or by agents in various parts of the country. They are often employed by large retailers to make up clothes after their own styling, just as regular manufacturers do who are not featuring their own brands and names. They are the most versatile tailors in the business. They can turn a style corner quicker than any others, and they can make deliveries in jig time when things are rushing. They accept a certain stipulated price for their labor and goods and allow the retailer to name his own profits. It does not appear that

trade is now mainly conducted by direct sales from the factory to the retailer. The sales are made by traveling salesmen who are sent out from the factory twice a year. The men's clothing jobber is disappearing in a large measure, except in those cases where he has goods made for him to be sold under his own label. His last stronghold is in the country and small town trade, and even there mainly in the selling of working clothes. There are also a few jobbers who dispose of slow lines for manufacturers either on a merchant or a commission basis.

This increase in direct sale to retailers by the cutters has led to the adoption of some new methods of selling. Formerly, the salesmen carried large lines of samples, sometimes 500 to 1000 suits, and after seeing these the retailer placed his orders. But with the increased demands from retailers for minor variations the plan has become general for a salesmen to take only a few suits (possibly twenty), merely to show the style and the finish, and then to supplement these by small fabric samples made by cutting up the cloth swatches given to the cutter by the cloth-maker. From these (sometimes 1000 or more in number) the retailer makes his selection of fabrics, to be made up according to his selection from the styles offered. In addition to cheapness and convenience, this method of selling has had two noteworthy effects. It has made it possible for small cutters to postpone their cloth purchases, and it has in a measure decreased the retailers' sense of responsibility for holding to his bargain when he changes his mind about his order.

they do much toward making clothes cheaper, but they do make it more convenient to get good clothes quick.

"The kings of the men's wear trade are the big clothing manufacturers who sell to retailers and buy whaling great lots of goods from fabric manufacturers. They advertise in a lavish way in magazines and newspapers and send out pretty booklets. In many cities they have agencies of their own with stores in different parts of a large center of population. In other places they select some retail dealer and allow him to feature their clothes exclusively in the territory." . . . .—*New York Journal of Commerce*, May 29, 1914.

For the spring trade these travelers go out in September, October and November, taking with them the manufacturer's cloth samples; which were received by the cutters in June, July and August, together with designs worked up with sample suits in the late Summer months. The orders they receive are started through the factory or sent to the contractors whose product the clothing manufacturer sells. The initial orders are ready for delivery early in the winter, while re-orders are executed in the late winter and early spring months. The re-order season represents the cutter's production peak. Therefore, the tendency among retailers is to over-order early in the season to avoid inability to secure the goods during that busy time. This practice has led to so much cancelation of early orders that manufacturers now frequently exercise the privilege of supervising their customers' orders, in a measure using their own judgment about conforming to the customers' delivery schedule, and even at times scaling down the orders sent in.

Summary

The foregoing details of the buying and selling methods of the cutters show how they have attempted to meet or to avoid the new conditions in the clothing trade. They also give special significance to some aspects of the recent development of the method of producing and distributing men's clothing. These methods involve large factory production, distribution through special agents and sale exclusively under the manufacturer's trade-mark. These details, moreover, add credibility to the statement that one manufacturer of named-clothing, with an advertising appropriation of $85,000, reduced his selling cost to between two and one-half and three per cent of the value of his sales, while the selling costs of some of his chief competitors ran from four to seven per cent, and even higher.[1]

[1] Cherington, *Advertising as a Business Force*, pp. 438–439.

The greater part of the men's wear fabrics not sold through the cutting industry goes to the consumer via the tailor trade. Obviously this trade calls for one or more middlemen between the tailor and the manufacturer. Most tailoring establishments are small, and few out of the total number are capable of keeping on hand very large stocks of piece goods. Generally speaking, therefore, the tailor's woolens, in their progress from the mill's selling house to the tailor, go through dealers in woolen goods, or dealers in woolens and tailor's trimmings.[1] Most of these dealers are large enough to buy from the mill's selling house. Others buy from cloth jobbers extensively. The larger part of the tailors, in turn, buy from the dealers direct. But the smaller tailors, particularly in the metropolitan districts, buy in suit lengths from suit-length cutters, who make a business of buying cloth by the piece and cutting it into suit lengths for this type of tailoring concern.[2]

[1] "The system of selling fabrics through book houses has been tried very extensively. This arrangement is one in which a company buys fabrics from various mills, arranges them in sample form in books and cards, and distributes the goods to merchant tailors or to others who care to buy under a trade-marked name not meaning anything more than a guarantee from the book concern. That is, the cloths sold in this way may be known as Weidmeyer's woolens or worsteds, and Weidmeyer may never have seen a mill, least of all owned one or operated one. The prices at which the woolens are sold in this instance to the merchant tailors are satisfactory to them, but they contain somewhere the profits of sampling, stock-carrying and general selling. It is a most convenient method for the small merchant tailor who does not want to carry stock on his own account."— *New York Journal of Commerce*, May 29, 1914.

[2] No official figures on the volume of the tailors' woolen trade exist. The Curtis Publishing Company in *Selling Forces*, p. 135, gives the following estimated figures prepared in 1912 covering various phases of the textile jobbing business:

Dry goods.....	$599,875,000	Millinery.....	$98,150,000
Notions.....	156,090,000	Woolens and tailors' trimmings..	58,385,000

"Dry goods" in this table includes so wide a line that it has no significance in a woolen goods study. But the ratio between that and the figure given for woolens and tailor trimmings as a separate trade gives some idea of the relative importance of the tailor trade.

A recent directory of the dry-goods wholesaling trade[1] lists two kinds of concerns as covering the trade in woolens and tailor's trimmings. It does not appear in the directory, however, whether the differences between these two types of house are actual differences in organization and selling method or merely differences in terminology. A count of the concerns listed as "Dealers in Woolens and Tailors Trimmings" shows a total of 80 for the country. Of these 26 were in New York and New England, and most of the others were gathered in such large jobbing centers as Chicago, Cleveland, and San Francisco. None was listed in the southeastern part of the country. A count of the concerns listed as "Dealers in Woolen Goods" showed a total of 152, of which 134 were within two hundred miles of New York City. Neither the southeast, the central south nor the southwest had any concerns of this type listed.

A number of attempts have been made by manufacturers of tailors' woolens to identify their fabrics and advertise them to the tailors and to the consumers.[2] The main feature of these campaigns has been the association of the idea of high quality with the name of the manufacturer and some easily remembered trade mark. The chief uses made of this association of ideas have been to attempt (1) to increase the volume of purchases from the tailor, as against ready-to-wear purchases, (2) to secure the support of the tailor trade in pushing the manufacturers' products, and (3) to persuade consumers to ask for the mill's product in ordering clothes. Notable campaigns of this kind have been conducted by the Arlington Mills, the American Woolen Company, J. R. Klein & Company (Shackamaxon), S. Stein & Company, and the importing house of W. P. Willis & Company. The annual appropriation of some of these

[1] Sheldon's *Guide to the Dry Goods Wholesale Trades*, 1912.

[2] See Cherington, *Advertising as a Business Force*, pp. 102–107.

houses has been as high as $89,000. The results are said to have been reasonably satisfactory, but the practice of trade-marking woolen cloth has not spread so fast as was hoped by the advocates of this selling method.[1]

In the men's-wear fabric trade it thus appears that the introduction of the cutting industry has in a large measure made cloth selling a contract problem as far as the large and medium-size clothing manufacturers are concerned. The smaller cutters, in the main, buy direct and on time. The wholesaling business, in cloths of this type, is chiefly confined now to the types of houses which exist to supply small merchant tailors. The use of trade marks on fabrics to give cloth manufacturers control over distribution has been tried, but cannot be said as yet to have completely passed the experimental stage. If this or any other method proves equal to a solution of the repudiation problem, and of certain other difficulties which have grown out of increased style risk, such as deferred purchase and accelerated season schedules, it will serve to strengthen enormously the position of the woolen manufacturer and his ability to meet the pressure of a narrowing profit margin.[2]

[1] "Consumer advertising of men's goods never has succeeded and never can."— Secretary of a Manufacturer's Association.

[2] About the time this book went to press there appeared from the office of the Bureau of Foreign and Domestic Commerce a monograph, miscellaneous series No. 34, on "The Men's Factory-made Clothing Industry." Chapter VII, pp. 234–251, is devoted to selling conditions. Other chapters cover factory organization, production costs, and improvements in machinery. The monograph may be bought from the Superintendent of Documents, Washington, D. C. for 45 cents.

CHAPTER XIV

READY-TO-WEAR CLOTHING AS A FACTOR IN THE MARKETING OF WOMEN'S PIECE GOODS

THE development of the ready-to-wear clothing industry for women paralleled the growth of the men's clothing industry during much of its history, although in its earlier stages it grew much more slowly. The cloak industry developed first and the suit industry later. During the past twenty-five years the growth of both branches has been phenomenal and it has been particularly rapid in the suit branch during the past ten years. The rapid development, particularly in the suit branch, seems to coincide roughly in point of time with the rise of the department store. In fact it is difficult to see how the manufacture of women's ready-to-wear clothing could have attained its present proportions without the type of outlet for the product offered by the large stores. It is equally difficult to see how the large stores could have extended this trade as they did without the factory type of source back of them.

Most of the mechanical advances, such as sewing, cutting, and other machinery, had been worked out in the men's clothing industry and were capable of easy transfer to the women's cutting industry. The organization methods are nearly the same in both industries. Similar means have been employed, moreover, in attacking labor problems.[1]

[1] The United States Bureau of Labor Statistics, Bulletins 144–147, contain a series of reports on labor conditions and the accepted methods of settling disputes in the cloak, suit, skirt, dress and waist industries of New York.

As nearly as one can judge from the available evidence, the recent growth of the women's cloak and suit branch of the cutting industry seems to be due largely to the concentration of markets. This, by enlarging the volume of the business of the city stores, increased the ability of these distributing mediums to assume style risks.

The degree of geographic centralization about a few city centers is even larger in this industry than in men's clothing, and the share of New York City in the total production is nearly 70 per cent.[1]

[1] The census figures put together under the heading "Women's Clothing" a large number of lines of product not concerned with the woolen and worsted trades. The total figures for value of product of women's clothing are 247 million dollars in 1905, and 384 million dollars in 1910.

Census of 1910, quoted in *Tariff Board Report*, p. 892:

	1905	1910
United States	100.0	100.0
New York	68.0	69.0
Philadelphia	5.2	7.9
Chicago	4.8	4.3
Cleveland	3.0	3.3

"Under the term 'women's clothing' there are embraced a much larger variety of products of the needle trades than under the term 'men's clothing.' For purposes of this investigation attention was given only to establishments engaged in the production of skirts, suits and coats. Even here the industry does not present the same simplicity as men's clothing. The latter is made for the most part from woolen materials. There is, however, a great variety and range of material used in the cloak and suit industry, and changing style and fashion play an important part in the material used. A statement of the relative importance of woolens for the industry in one year, or for one season is, therefore, not necessarily descriptive of the general situation.

"In women's clothing, as in men's, there is the inherent difficulty of finding any standard product on which cost of production can be uniformly obtained. For the purpose of this investigation data were secured for the costs of production of coats, skirts and suits. In general the same methods were pursued here as in the men's industry. Data were obtained for specimen garments and supplemented by statements for the year's business. Here, however, statements for this year's business are not as informing as in the men's clothing industry. As practically all men's outer street garments are made of wool, a statement of the cost of woolens for the year gave the proportionate wool cost in the average garment produced. In this industry, however, few houses make exclusively woolen garments."— *Tariff Board Report on Wool and the Manufactures of Wool* (1911), p. 892.

The census figures concerning women's clothing are in a measure checked by the following results of a count of concerns producing women's clothing of woolens and worsted, as listed in a trade directory.[1]

	New York	Chicago	Baltimore	Boston	Brooklyn	Cincinnati	Cleveland	Philadelphia	San Francisco	St. Louis
Suits and cloaks	643	50	17	42	1	13	24	76	5	9
Skirts (woolen)	153	33	15	23	..	..	27	20	4	17
Children's cloaks and suits	157	..	..	..	1	..	..	15	..	..
Auto coats and rain-coats	51	..	..	2	..	..	..	..	..	..

Here, as in the men's ready-to-wear clothing industry, the contract system figures largely, but because of the greater number of small cutting concerns (due mainly to the style risk problems) the relative importance of the outside system of production is less.

The relative importance of factory compared with outside work was illustrated in the spring of 1916 when the protocol system for handling labor disputes, in effect in the New York cutting trades for several years, apparently broke down. This incident furnished a striking illustration of the mobility of these trades whose capital is so largely represented by stock, either in process of manufacture or in process of sale, and whose investment in fixed equipment is relatively so small.

Early in the summer of 1916 a statement was issued by the Cloak, Suit and Skirt Manufacturers' Protective Association that sixty-five factories owned by members of the Association had been opened outside of New York City. These shops, it was stated, gave employment to about two thousand men and women. Most of these new establishments were set up in near-by districts of New Jersey and Connecticut.

[1] Sheldon's *Manufacturing (Cutting up) Trade*, 1912, the same trade directory as was used in ch. XIII in the discussion of men's clothing.

At that time it was predicted that within five years New York City would lose about three-fourths of its manufacturing cloak industry, and that only the show rooms and offices will remain in New York.[1]

The Importance of Style Risk in the Women's Cutting Industry

The contrasts in the organization and working methods of the men's clothing industry and the women's depend, to a large extent, on the differences between their fundamental commercial problems. The style risk, though prominent among the problems of the men's industry, is the one dominant factor of uncertainty in the women's. Apparently this greater style risk was one of the chief factors in retarding the women's branch of the cutting industry in earlier years. Until recently there was no satisfactory method open to cutters for absorbing or shifting this hazard.

Styles are necessarily a far more conspicuous factor in the manufacture of women's than men's ready-to-wear clothing. There are said to be perhaps a hundred cloak and suit makers in New York City who each year go, or send to Paris for ideas and designs at first hand. We have already discussed some of the methods by which these ideas are adapted to American needs and related to the previous season's offerings.[2] Sample suits are made up according to these Americanized designs and these samples are usually submitted early to the judgment of department store buyers.[3]

[1] *New York Journal of Commerce*, June 10, 1916.

[2] *Supra*, ch. XI.

[3] The *New York Journal of Commerce* for June 5, 1914, gives the following forecast of conditions due to style shifts in the fall of 1914:

"The vagaries of fashion are proving just as troublesome to garment manufacturers as to cloth manufacturers. The way styles have shifted recently and are still shifting leads the cutters to believe that garment styles will be just as uncertain during the coming fall season. The style doubts that surround the future are responsible for the light dress goods buying operations at present. Of course, not much in the shape of new business is to be expected at this period because

The main basis for the final choice of the season's lines is the judgment of the department store buyers, although in some instances a few consumers may be consulted. The mail order and the book house usually make up their lines somewhat later than the cutters, and they ordinarily try to keep down to a minimum the lines they show.

The larger element of style hazard in the women's clothing industry has led to a greater prevalence of "hand-to-mouth" buying. Aside from this, the methods of purchasing cloth apply alike to the men's and to the women's garment industry.[1]

The *Tariff Board Report*[2] gives some interesting data concerning the cost of cloth as an element of the final cost in certain selected specimen garments and for a certain number of concerns:

> In skirts the cloth is practically the only material of importance. Here data were obtained for skirts ranging in wholesale prices from $2.50 net to about $7. These data show that in all grades the cloth cost is 40 per cent. The cost of other materials is about 5 per cent. The total material cost is substantially 45 per cent. The manufacturing expense for direct labor and overhead expense is about 30 per cent. (P. 893.)
>
> On coats the cost of cloth is less important than it is on skirts; on the other hand, the cost of trimming is very much more important, and the conversion cost absorbs a

it is between seasons, but the dullness during the past week seems more pronounced than usual.

"Some manufacturers of ready-to-wear have gotten out two complete sample lines for fall. This is a most unusual thing to do, but the first samples shown are said to have been received so well and such early deliveries are requested that the sellers were convinced that these styles would be old long before the season drew to a close. The adoption of a second line was in the circumstances considered advisable."

[1] "The distribution of woolens and worsteds through the maker-up has resulted in a large displacement of business with jobbers. Offhand, makers-up distribute two thirds of the woolens and worsteds, one third of the silks, and one third of the cottons."— Statement of a style expert.

[2] Pp. 893–908.

larger percentage of the selling price of the garment. For coats selling at wholesale for less than $12, the cloth cost is equal to about 35 per cent of the net selling price. In garments selling above this figure and as high as $30, the cloth cost seems to be in general less than 30 per cent and on very expensive coats the cloth cost falls below 20 per cent. The cost of trimming shows much greater variation than the cost of cloth, rising, however, both absolutely and relatively with the cost of the garment. The extensive vogue of the reversible coat this year probably tends to exaggerate the importance of the cloth cost for coats. It is sufficient to note that cloth is far more important an item of cost on cheap garments than on more expensive coats. The conversion cost on cheap coats is nearly as great as the cloth cost, and on more expensive garments it is greater than the entire cost of the materials used. (P. 894.)

On suits the cloth cost is far less important than for either skirts or coats. Trimmings are here very important, and on the more expensive garments often account for the larger part of the material cost. The trimmings used are, moreover, chiefly silk for the lining, and braid or embroidery. The conversion cost, or wages of labor and factory expense, is here the most important element in the cost of the garment.

On the whole it appears that the cloth cost is more important in the cheaper priced garments. Thus, in garments selling at wholesale for less than $20 the cloth is about 25 per cent. On the more expensive garments the cloth cost is generally below 20 per cent. While the cloth cost is not as important as on coats, it is still the chief material used. The labor cost, or more correctly the factory cost, ranges between 35 and 45 per cent, being more important than the cost of all materials used. The higher labor cost is found in the more expensive garment. (P. 896.)

For skirt houses there is information showing the importance of woolen cloth in the total product. Houses for which there are data available report a cloth cost equivalent to between 44 and 48 per cent of the selling price. The trimming cost, as reported by them, varies from approximately 10 per cent to less than 5 per cent. The labor and factory cost amounts to 30 per cent of the selling price. (P. 901.)

Here few houses have records showing the importance of woolen cloth in their annual output. One very large concern, which keeps careful records, reports the cost of

cloth to be approximately 20 per cent. Other material used by this firm amounts to 25 per cent, or 5 per cent more than the cloth. This is a concern engaged in the production of garments selling at wholesale for more than $25 on the average.

One house extensively engaged in the production of coats, selling on the average between $5 and $6, reports that normally about seven-eighths of the total material costs is expended for cloth. This is an estimate, the concern keeping no records that segregate the cloth from the trimmings. Another house, manufacturing misses' and ladies' coats and suits, reports that cloth absorbs 58 per cent of the net selling price as against 8 per cent for trimmings. A third house gives the cloth cost as 36 per cent and cost of trimmings as 9 per cent. (P. 901.)

In the cloak and suit business the large houses report the cost of the garments as they leave the factory to be between about 80 and 85 per cent. This means a lower margin for selling, general expenses, and profits than that found in men's clothing. One interesting phase of the industry, however, is the comparatively low selling expense in the suit and coat business. The large houses in the business report a selling expense of less than 3½ per cent at the maximum. This is because sales are made largely at the office of the firm rather than through salesmen. As selling expense absorbs a very much lower proportion of the net amount received from sales, the larger houses show a higher rate of profit than that reported as a whole for the men's clothing industry.

It is necessary to emphasize the fact that these conclusions are based largely on data received from houses manufacturing higher grade women's garments. The more limited data secured for skirt houses indicate a different situation, and selling expenses are there considerably higher. (P. 902.)

Selling Methods in the Women's Cutting Industry

Just as styles seem to be the most conspicuous feature in the problems of organization and of cloth buying by the cutting-houses, so also do they appear as the most conspicuous feature determining the

[1] A summary of costs from yarn to completed garment for certain "typical" garments will be found in *Tariff Board Report*, pp. 902–908.

methods of selling the products of the cutting establishments. The methods of selling women's clothing differ in many respects from those employed in the men's trade. The differences appear to be due to the greater variation of styles from season to season, the possibility of style shift in the midst of a season, the greater variety of styles necessary for a complete retailer's line, the fact that the stocks of the large retail stores frequently are too full and varied to be drawn either from one or from a small number of manufacturers, and, the fact that the larger stores take a vigorous hand in developing their own designs.

The selling methods of the women's branch of the cutting trade can be understood better after we have examined the buying methods of the large stores.[1] It may suffice at this point merely to enumerate some of the noteworthy contrasts with the corresponding problems in the selling of men's cloth already described. In the first place, there are few trade-marked lines of women's coats and suits. Second, the branch store and agency methods of selling these goods are scarcely to be found at all. Third, the interval between order by the store and delivery by the cutter is reduced to a minimum (sometimes as little as three or four weeks); and, fourth, cutters aim to keep down their stocks in process of manufacture to an absolute minimum, seldom allowing the factory to get far ahead of orders actually in hand. Women's ready-to-wear clothing is sold almost entirely by direct sale to retail stores,— most of which are of the larger type, either department or specialty stores.[2]

One recent change of importance in the selling methods in this trade, occasioned by prolonged labor troubles in New York City, is the marked tendency

[1] *Infra*, ch. XV.

[2] "Makers-up reach the retailers direct by traveling salesmen. A few supply the jobbing trade, and occasionally makers-up distribute by catalogue."— Statement of style expert.

reported among large stores in New York City to seek small manufacturers rather than the larger factories for a great part of their stocks. This seems to confirm the observations of Mr. C. C. Parlin, the head of the Research Bureau of the Curtis Publishing Company, who declared, after his investigation into methods of selling textiles, that the large manufacturers of ready-to-wear normally seek the small outlets, and that the large stores normally seek the small manufacturers.

It is declared that when the strike of 1910 came on a number of the larger New York stores had placed orders with the larger cutters for substantial quantities of garments to be made to match samples already on display in the stores. The cutters, in turn, had placed their orders for cloth. This made it impossible for the retailers to take their orders to large cutters elsewhere, as the cloth could not be secured in bulk by other cutters as long as the existing orders stood.

A number of the stores hit upon the expedient of hunting for small cutters, who, by making small purchases of cloth through suit-length jobbers, were able to take care of their orders.

> The only question these small manufacturers raised was the one of securing model gowns and suits from which to work, and then the further question of securing the special fabrics required. When the large concerns found themselves unable to complete their orders on the dates required because of the strike, they asked the mills making the goods to cancel their orders, or at least to hold them back. It was very soon possible for the department stores to arrange with the cloth manufacturers to take over the goods that were made and to arrange for the balance of the goods that would be needed. The question of styles was answered by the department stores shipping to the small manufacturers the sample gowns and suits they had already purchased from the large manufacturers.[1]

The result of this condition was that some of the large stores found that the small cutters could turn out

[1] *New York Journal of Commerce*, April 22, 1913.

satisfactory work at a lower price than it had been possible to get from the large cutters. By hiring stylers of their own to work in conjunction with these small cutters, these stores have been able to shift a large part of their purchases from large to small cutters. In other words, the styling function again proves to be distinct from production, but to have a controlling influence upon it in the production both of the garments and of the fabric. The article just quoted continues:

> The matter has had a far-reaching effect. The mills that were dependent upon the favor of a few large manufacturers for styles and an outlet for their fine quality fabrics have been able to get much closer to the leading stylers in the retail trades, and consequently they have broadened their touch with the consuming public that is willing to pay prices that warrant the production here of the best goods that can be made anywhere. . . .
>
> Having closed certain outlets for their products, the large manufacturers of ready-to-wear gowns and suits are now casting about for a wider trade with specialty cloak and suit houses in various parts of the country, and with department stores they did not care to touch when they were catering for the very highest class trade in the metropolitan centers. This is bound to inure to the benefit of the consumer, ultimately.
>
> The large retailers who used to depend upon a few manufacturers for their ideas of styles in gowns and suits, and who were practically in their hands, have now cut so far loose that they are encouraging individual styling more than ever before. They keep in touch with the finest private dressmakers and suit makers, and purchase from them at their own prices model gowns and suits which they have duplicated by small manufacturers at their convenience. The importation of made-up suits and gowns is certain to be increased for model purposes under a new tariff law, and it is declared by some enthusiasts that mills making the finer qualities of dress goods will eventually profit from the wider distribution that will be made possible for them.
>
> It is manifest that style growth will not come from the small manufacturers of suits and gowns, who only pretend to be able to make the duplicates of gowns and suits that are sent to them. But as the development goes on, it seems

clear that certain stores will rely upon certain small manufacturers for one class of style work, and on others for different styles. The styles will remain in control of the stores, and in the last analysis of a high-class exclusive trade that is where it should be, rather than wholly in the hands of a few large manufacturers who have garnered great profits.

The change in the commercial problem of the maker of women's ready-to-wear clothing which is thus described can be understood best when it is considered, not as an isolated phenomenon, but as merely one manifestation of the pressure which is constantly being exerted to force the large manufacturer toward the small retailer and the large retailer toward the small manufacturer.[1]

From the cloth manufacturer's point of view the most important feature of the change thus described is the assumption of the task of style-setting by the retail outlet, and the consequent shift in the style risk. If it becomes general for large stores to do any considerable part of their own styling the style problem will assume a new form. As nearly as can be foreseen, this movement, if widely adopted, will throw upon the advertising department of the large store the burden of forcing the local adoption of a style which that store has developed. This may add to the cloth-makers' troubles in the way of smaller size of individual orders, but apparently it would reduce the risk of a style stampede. Anything which promises to do this with any success would doubtless be welcomed by the mills.

Summary

By way of summary it may be said that the development of the men's clothing industry modified the selling methods of the cloth manufacturer, in that it in-

[1] A prominent distributer of textiles expresses the opinion that less than 10 per cent of the ready-made clothing reaches retailers through jobbers.

creased contract sale. It did not, however, cause commercial problems as serious as those introduced by the rise of the women's clothing industry, because the style risk in the men's clothing was not abnormally great. The development of the women's ready-to-wear clothing industry produced three important changes in the mill's selling problems: (1) It concentrated sales by decreasing the volume of business going through the jobbers into the over-the-counter trade, while, at the same time, it increased the contract business with cutters. (2) It exaggerated the style hazard by concentrating the style influences in New York and threw most of the cutting trade into the hands of concerns inadequately financed for meeting or resisting these influences. (3) It decreased the interval between order and delivery, and threw on the mill practically all the danger of loss from repudiation of orders.

These conditions, of course, cannot be considered as final. Already it is evident that neither the consumer, the retailer, the cutter nor the mill, is satisfied with a process which increases inescapable commercial risks, while it decreases the producer's and distributer's ability to meet them.[1]

[1] "The worsted dress-goods manufacturer finds it easier to-day to determine what is needed through the system by which the manufacturers of clothing arrange well in advance what they shall make for the coming season."— Statement of a commission house.

CHAPTER XV

DEPARTMENT STORES AND THE MARKETING OF WOMEN'S PIECE GOODS

THE retail distribution of part of the country's output of staple woolen and worsted fabrics is still conducted through what are termed the "regular" channels of trade. The mill, through its selling house or agent, sells to the wholesaler, the wholesaler sells to the retailer, and he in turn to the consumer. The mechanism for selling the remaining portion of the staples and practically all of the style fabrics, on the other hand, has been modified not only by the introduction of the cutting trades,[1] but also by the spread of large-scale retailing as typified by the department store. The establishment and growth of this type of retailer has effected a change in the relations between the retailer and the cutter, and has increased the amount of direct purchase of cloth by retailers from selling houses without the intervention of wholesalers.

The History of the Department Store

The department store is mainly a development of the past forty years. It owes its growth to many factors, notable among which are the modern conditions of urban life, and especially the development of rapid transit facilities. Surprisingly little is on record covering the main steps in the growth of this product of modern commercial organization. Aside from a few personal reminiscences, little has been written about it.

[1] *Supra*, chs. XIII and XIV.

It is difficult to say positively when or where the department store business in this country had its origin. Various accounts of its beginning are given. It is said, for example, that S. S. Houghton deserves credit for the germ of the idea. Mr. Houghton had been engaged in the general store business in a New Hampshire town, and conceived the idea of establishing a country general store in a large city. It is said that he persuaded his brother-in-law, R. H. Macy, who had accumulated some capital as a fisherman in New Bedford, to go into partnership with him. In 1858 the two established on 14th street in New York City what is declared to have been the first of the department stores.[1] This concern has continued in business ever since, although Mr. Houghton left it about 1870 and went to Boston where he afterwards engaged in department store business with B. F. Dutton, who also had come from New Hampshire and had visions of the possibilities of the country store in a city environment. Again, it is claimed that the Jordan Marsh Company of Boston were the first to develop an American department store, and that they transplanted the idea from the Bon Marché in Paris.

The economic effects of the changes in marketing methods introduced by large-scale retailing have never been studied in relation to so much as a single industry. We do not even know accurately how many department stores there are now in the country, nor do we know except by estimate how large a part of the total volume of the trade of the country is retailed through this channel.

The most complete investigation into the subject thus far attempted is that made in 1912-1913 by C. C. Parlin, for the Curtis Publishing Company. Mr. Parlin estimates that in 1912 over 40 per cent of the total dry-goods and ready-to-wear clothing business

[1] *Corset and Underwear Review*, February, 1914.

in this country was done by the 1140 department stores which had an aggregate sale of at least $200,000 each.[1] Moreover, he states that the five leading dry-goods stores in each of the 100 largest cities in the United States did an aggregate of $943,451,000 worth of business out of a total dry-goods and women's ready-to-wear business of about $2,094,000,000 for 1912. Mr. Parlin gives the following figures:[2]

Largest stores	$260,740,000	28%
Second largest	166,100,000	18%
Third largest	130,561,000	14%
Fourth largest	97,880,000	10%
Fifth largest	69,735,000	7%
Other large dry goods stores	218,435,000	23%

In discussing his figures, Mr. Parlin lays much stress on the distinction between the marketing problems of such lines of goods as are bought for "convenience" and those of which before buying the consumer likes to compare values, particularly mentioning women's ready-to-wear clothing. This distinction is well brought out in the following statement by Mr. Parlin which throws light on the character of the market and the distribution of department stores:

In the sale of any shopping line monopoly is impossible, for women cannot compare values if there be but one stock. We found a man who had a monopoly of the dry goods business in a small city, but he carried no real stock of ladies' ready-to-wear — just a few emergency garments. We asked him why this was: "I used to carry a stock of ladies' ready-to-wear and did a good business, when I had a competitor. He also did a good business, but he closed up, and then I had to discontinue the line, because the women gave me the first look and then went over into a near-by city and made their purchases there. I could not afford to carry a stock for the ladies to look at when they never bought."

Thus it appears that if a man secures a monopoly of the dry goods business of any community, the women of the community will seek their shopping lines in neighboring

[1] C. C. Parlin, *The Merchandising of Textiles.*

[2] *Selling Forces*, published by the Curtis Publishing Company, p. 49.

cities or will purchase by the catalog route. Hence, monopoly is impossible. As a matter of fact, a woman wants to compare values in three stores. Why three, I do not know; perhaps it is the limit of her endurance. But whatever may be the philosophy, it is evident that three is the magic number in women's shopping; for in almost every city where shopping lines are carried, you find just three important stores with these lines — seldom less and seldom more — until you reach cities of 25,000 population. Then the number increases slowly.

Of the cities with more than 200,000 population there are two which have only three stores each that do upwards of $1,000,000; six cities have four stores each of this grade; nine cities have five each; three cities have six each; four cities have seven each, and there are only three cities in the United States which have more than seven department stores that, in our judgment, are doing more than $1,000,000 of business each.

When the number reaches six, there is apt to be a division into two classes — three stores carrying merchandise that is medium and up, and three carrying merchandise that is medium and down; and the women who shop regularly in one group seldom visit the other. The sale of shopping lines, therefore, is sharply concentrated into a few stores in each city.[1]

The increased popularity of women's ready-to-wear garments is partly due to the large store's greater ability to handle this trade successfully. In turn, the steady gain in popularity of these goods has enhanced the ability of the city stores to conduct this business profitably. The decline of the piece-goods business of country and town stores, and the concentration of the retail outlet for cloth and ready-made goods in comparatively few large houses in the shopping centers, together explain why the cloth-manufacturer's sales to the regular trade have, in a great measure, given way to large-scale selling. The two new chief outlets for the cloth-manufacturer's goods are to the large retailers direct and to the cutters, who in turn depend

[1] C. C. Parlin, *The Merchandising of Textiles*, pp. 6 and 7.

on the large retailers. These conditions lead to an inquiry into the methods employed by the large, concentrated retail outlets in purchasing women's ready-to-wear clothing. A better understanding may thus be gained of some of the forces which have driven woolen and worsted goods manufacturers to adopt new selling methods.

The three most striking features of the large stores' buying methods which differentiate them from the "regular" retail outlet of former days are (1) the stock plan, (2) the seasonal calendar, and, (3) the development of "sources." An examination of these features, as they are found in the purchase of ladies' ready-to-wear clothing, will show what effect this retail outlet for clothing has on the selling problems of the cloth-manufacturer.

A Stock Plan Applied to One Line of Goods

The successful employment of a stock plan is a direct result of the huge volume of business in any one store. It is one of those "mass phenomena" which the department store has been able to turn to account as one of the sources of its strength. If the increased volume of sales did nothing but make possible the more accurate ordering of sizes on the basis of experience averages, it would constitute a valuable advantage for the large store as compared with its smaller competitors. But in the ordering of styles and lines of goods these same laws of average are also valuable in making it possible to offer wide choice to each customer, within comparatively safe stock plan limits.

The stock plan for a department store may perhaps be best illustrated by the following somewhat idealized description of a stock plan which was adopted a few years ago by one department store for its women's cloaks and suits. This does not accurately represent

any stock plan ever actually in operation, but the general principles here set forth have been made use of by a number of progressive concerns.

In the store referred to, the stock was separated into three main divisions. The first division included the "full lines," the second, what were known as "between lines," and the third, the "fancies and extras."

Full lines. Lines to be sold at certain prices, which were accepted as standards, were known as the "full lines." For example, about the retail price of $18.50 there were gathered several groups of styles and these together were known as "the cheapest full line." About the retail price of $25.00, again, there was grouped another set of offerings known by some such title as "the medium priced full line," while about some such figure as $35.00 was gathered another portion of the stock, known as "the highest priced full line." At each of these figures the plan aimed to provide garments which would cover a wide variety of choice. One group of cloaks at $18.50, for instance, represented staple garments made of inconspicuous cloth and cut on conservative lines. A second group at this same price included garments of a much more dashing style, which constituted the quickest moving, and in many respects the most profitable portions of the stock. Another group retailing at this price was bought with the idea of giving the highest possible value for the price. The profits in this group were comparatively narrow, and the main purpose of it was as a final "sale saver," designed particularly to appeal to the buyer with real ability to discriminate in values. A fourth group at this same price included a small number of more or less extreme novelties, primarily to give to the stock the effect of being thoroughly in line with the most recent fashion changes, and a fifth group was made up of special lines which, at the early part of the season, were a more or less unimportant part of the

total stock, but which increased in relative importance as the season progressed.

These five groups were not arbitrary, but they represent approximately the buying standards which were set up for the planning of the full lines. On an entirely similar plan the "full line" portion of the stock was worked out at each of the different prices. Thus, at the rate of five groups at each standard price, the full line stock would total fifteen groups.

The great part of the stock ordinarily was bought for these groups in the full lines. In some stores the percentage in full lines will run as high as 75 per cent of the total value of the stock.

Between lines. Between the various standard prices at which full lines were stocked there were one or more prices at which a few cloaks or suits were offered for sale. These were known as between lines and were intended for sale at some such prices as $22.50 or $29.50, or other figures lying between the prices decided upon for the full lines.

Fancies and extras. In addition to the 75 per cent of the appropriation which is devoted to the purchase of the full lines and that portion of the remainder which is used in the purchase of between lines, the buyer for a department of this kind is constantly on the lookout for fancy or extra lots which he can add to his stock as special bargains.

Thus the different lines in a department store may comprise three full lines with five subdivisions of each, two "between" lines with a varying number of subdivisions and, in addition, the fancy lines bought largely for advertising purposes and to preserve the store's reputation as an aggressive style leader. When all these are multiplied by the necessary number of sizes for each line, and the total value footed up, it is plainly seen why this business offers so many advantages to the large store with ample capital and quick

turn over, as compared with its small competitor. Stock plans like this are laid out six months in advance. The whole year's buying operations are shaped upon it.

It is evident that with a large number of sales from which to work out averages any buyer who is working according to some such plan as this, and who can at the same time develop a satisfactory system of averages for sizing his lines, is at a distinct advantage over any buyer who is operating on a smaller scale.

The Seasonal Calendar

The seasonal calendar for the ready-to-wear suit season of a representative department store gives another glimpse of the way the buying methods of the modern department store affect the marketing problems of the woolen and worsted manufacturer.

	Sales	Stock
January —	After Christmas cleanup followed late in month by first showings of spring lines—Palm Beach wear.	First lots arriving of advance styles for spring season.
February —	First showings—securing opinion of customers. Testing out the market.	Small stocks. Re-orders in assortment as result of market tests.
March —	Before the middle of month, spring opening. Beginning of Easter season.	Stocks complete by lines. Reorders in assortment arriving. By end of month stocks complete.
April —	End of Easter trade —season nears height.	Stocks at maximum in full lines.
May —	Height of season.	Stocks not filled when sold out.
June —	Decline of season determined by weather.	Full lines supplemented by advertised lines.
July —	Natural and stimulated trade.	Advertised lines and bargain purchases.
August —	End of season. All stocks closed out.	Clean up and showing of first samples of fall styles.

The heavy goods season follows a similar course covering the remainder of the year. This season is somewhat shorter than the light weight season. It

opens more abruptly early in September, reaches its height by November, and is materially modified by the Christmas trade during the second and third weeks of December. Stocks, meanwhile, are kept from six weeks to three months ahead of the sales season until after the height is reached. After that, quick purchases of special lots are the rule.

The seasonal calendar, while rigid in general form, is extremely elastic in detail. It is because of this uncertainty that the hand-to-mouth buying habit has grown. A rainy fortnight in April may cut the season's business by a fifth or a quarter. The store therefore cuts down its reducible risks wherever possible, and wherever such a course is feasible, it does not buy until the very last moment. The suit-maker hesitates to manufacture until he receives the store's orders. The cloth-maker, however, cannot reduce the time for cloth manufacture very materially. He, more than the cutter, or any of the various distributers, is under pressure to anticipate the vagaries of fashion and the caprices of distributers. From six weeks to four months in advance, he must make his goods, and the gamble on their salability falls chiefly on him.

The Development of Sources

The study of sources of supply for the different line of goods used by large-scale retailers is another field for the exercise of the modern type of merchandising skill which has direct bearing on the cloth-manufacturer's problems. Every department store with a truly modern organization works out its system of regular sources and occasional sources. Sometimes source development has gone so far as to involve complete or partial financing of the manufacturer by the store. In such cases the lines manufactured in these "regular" sources will be the lines of more staple character in the stock plan. The other, more progressive or radical lines,

will more often be purchased from special sources on a competitive basis.

Source development in the ladies' ready-to-wear lines is in process of evolution in most stores. Many of the large stores have paid stylers in Paris to watch new developments in women's dresses, millinery, and tailored lines. These are supplemented by representatives in Berlin to watch new developments in cloaks, and London for men's wear and sporting clothes. Style suggestions received from these representatives are brought to New York and modified, and the designs thus worked out may be turned over to some cutter to make up exclusively for the store which assembled the ideas. In other cases, the stores secure from cutters exclusive right to sell some design the cutter may have worked out. In still others, the store buys in an open, competitive market with no attempt at exclusive style control. This is especially true of lines bought after the peak of the cutter's season, which obviously comes a little earlier than the retailer's peak and gives the retailer for a brief time a great advantage as a buyer.

Styling Methods of Department Stores

The spread of the custom of styling by metropolitan department stores [1] emphasizes, in connection with the cutter, the statement previously made concerning the cloth-manufacturer, namely, that he discharges two distinct functions in producing goods largely influenced by the element of style. One function is the manufacture of the goods according to design,— a mechanical process involving adequate equipment and skilled workmen. The other is the anticipation of style (public expressions of taste) or the creation of new designs. This is not a mechanical process, and involves many risks not in any sense inherent in the

[1] See ch. XIV.

problems of the actual production of the goods. The retailer contends that if he is in a position to forecast accurately the style changes impending in his trade, the assumption of this second function may be quite as much a part of his task as it is that of the cutter or cloth-maker. The department store with a well-defined stock plan and a carefully calculated seasonal calendar and increased power in dealing with sources finds it no longer desirable or feasible to rely entirely upon large cutters for the creation of new style designs. It prefers to go to small cutters who will submit to dictation in matter of style by the store itself.

It has now become a common practice for department stores to buy very slowly at the beginning of the season on account of the rapidity with which fashions change in both fabrics and ready-to-wear goods. It is not uncommon for a department store, for example, to have a rule that not more than twenty-five per cent of a normal season's requirements shall be purchased in advance, and even this percentage is permitted only in the case of fairly staple goods. It is thus clear that in the buying methods worked out by these skilful retail establishments with large capital there is to be found the most important attempt to meet the conditions in the cloth-selling market which have been brought about by the exaggeration of the style influence.

The piece-goods business done by department stores shows, in most markets, a decided tendency to decrease. In that portion of the piece-goods business which remains, there is an evident increase in the relative importance of fancy as compared with staple fabrics. This has the effect of forcing both large and small retailers to stay out of the cloth market as long as possible, and then to buy as little as possible. At the same time it forces them to dispose of their stocks

at a sacrifice if they should be caught with merchandise on hand which proves to be unpopular.[1]

One comparatively new phase of the development of dry-goods retailing is the growth of specialty stores. These may be characterized as stores which carry wide, full stocks limited to a few lines. For example, cloaks and suits may be carried alone, but the stocks in these lines may be so complete as to compare favorably with those of any competing department store. In some instances buyers for department stores have left the large store and have set up in a specialty business for themselves, reasoning, apparently, that they could thus give the public the advantage of their skill as merchants without carrying the heavy expense of the department store.

If this type of house becomes common it may slightly modify the cloth-maker's selling problems. At the present time, however, the points brought out in the discussion of department stores will apply in the main to specialty stores as well.

Summary

It is difficult to foresee all the commercial effects of the various modifications which are being adopted in the methods of purchase by retailers. Whatever effects may develop, it seems a safe prediction that

[1] "Under all the rules of safe trading the margin of profit in the handling of novelty fabrics should be large. It is not generally large at the present time. In many cases the prices that are being asked for some weaves in all fabrics are hardly ten per cent. better than the prices secured for plain goods. The exceptions to this are found beyond the mills, and first hand traders.

"It is related that one of the most experienced handlers of novelty goods in this country was accustomed to keep a close eye on sales from hour to hour in his department when he was stocked up with extreme patterns. As fast as half the yardage in one piece was disposed of he would reduce the price 25 per cent, and when only short lengths remained he would cut the price until hardly cost and normal interest was represented in the quotation. In this way he kept all goods moving and averaged his profits so that he remained longer and more successfully in the business than any of his competitors."— *New York Journal of Commerce*, September 19, 1913.

sooner or later the problem of style risk and the ability to meet it will determine what sales methods shall prevail. Under present conditions, the mid-season style shifts cut down the retailer's initial purchases, make his clearances more difficult, and greatly increase his commercial hazard in various ways. As the commercial changes come about, the retailer is growing much wiser and more skilful in his buying. The various devices which have been mentioned greatly strengthen his ability to bargain. If purchase from small sources offers the retailer a method of reducing the heavy style risk, or of shifting it, the large cutter can expect to be at a disadvantage in selling to the most rapidly growing part of the retail trade — the large retailer.

CHAPTER XVI

CONCLUSION

MUCH of the material for this book was gathered before the opening of the European War. Some of the conditions described here are now changed quite materially. Moreover, it is inevitable that after a return to normal conditions, many of the developments from war conditions now regarded as temporary, will prove to have permanent influence. There is no former event in history which offers a parallel of any great value in attempting to make a forecast of results of this war.

The Civil War in this country changed the American woolen and worsted industries in numerous ways. Many of these effects did not develop fully for many years after the war had ended. In somewhat the same way, although on a larger scale, the European War will no doubt change many of the aspects of the wool industries and trades of this as well as all other countries.

The ultimate effects of the War on the world's wool industries and trade cannot be predicted at this time. Some of the immediate effects are clear, however, and an enumeration of these, in so far as they affect American conditions, may be useful as a summary of some phases of the outlook for these industries:

(1) The present situation makes more conspicuous than ever before the military strategic value of an American wool-growing industry. (2) It emphasizes the desirability from a military standpoint of independence for the United States in its manufacture of woolens

and worsteds. (3) It demonstrates our present dependence on Europe for certain parts of our machinery equipment, and on Germany for most of our dyestuffs. (4) It makes clear the desirability, and the possibility of developing a larger degree of originality in design among American cloth-manufacturers, and of securing full credit for the originality they already have exhibited.

It is a matter for dispute whether the military argument in favor of making the United States more nearly self-dependent as a producer of woolen and worsted cloth would alone justify attempts to extend, or even to preserve, our wool-growing and wool-manufacturing industries. In the recent agitation in favor of "preparedness" this argument has been thrown forward and given more than its usual weight. This country does not seem inclined to put its industries on a military basis even if it does favor "preparedness." Quite aside from this military argument, however, there seems to be ample justification for a careful consideration of the problems involved in adjusting the American woolen and worsted industries to the new conditions of trade at home and abroad.

No simple program for reconstruction will suffice to meet all the difficulties involved in this complex group of industries. The chief hindrances in the way of any constructive plan arise from the economic basis of some of the main industries in the group.

Sheep-raising for wool alone is, as has been pointed out, a frontier industry. On the other hand, the raising of sheep yielding a return both from wool and mutton is an industry incident to more or less intensive agriculture. In contrast with these two, the manufacturing of wool as it is now conducted in this country is primarily an urban industry. Thus, these separate complementary industries are based on three sharply contrasted types of economic development: pastoral development, intensive agriculture, and urban life.

Interrelation Between the Wool Growing and Manufacturing Industries

Considering these divergencies in the underlying conditions of this group of industries, it is not strange that there has been difficulty in working out a form of national assistance through the tariff satisfactory for any length of time for all three of them. At no time since the Civil War have our wool-growing industries been able to supply all the raw material for our woolen and worsted cloth-manufacturing industries. The carpet industry has always depended almost exclusively on imported wools and probably it always will. Since 1880 the value of wool manufactures in this country has grown from $240,000,000 to over $500,000,000. But the sheep-raising industries have not kept pace with this growth. The American flocks numbered over 50,000,000 sheep in 1884, and they are now slightly less than that, although in 1903 they were reported by government figures at 63,000,000. They thus show no net gain in numbers. The American wool clip indicates some compensating increase in the weight of fleeces. For the ten years 1871-80 the clip averaged a little over 186,000,000 pounds, for the next decade 280,000,000 pounds, and the clip for last year was 288,000,000 pounds although the maximum year of 1909 shows a total of 328,000,000 pounds and for the past twenty-six years the average was 300,000,000 pounds. Imports of raw wool of all kinds have increased from an annual average of about 79,000,000 pounds for 1880-84 to an annual average of 207,000,000 pounds for 1910-14. A notable increase in imports of clothing wools has taken place since 1904. These figures show the extent to which the increase in raw material supply needed by the American manufacturing industries has been taken care of by increased imports. But as has already been shown they must be

accepted with caution when the total imports are compared with domestic production, because the import figures include carpet wools, just as the figures for manufactures include carpets. The main point, however, is made clear by these figures, namely that wool manufacturing has outrun the wool-growing industries. The urban industry in this group has increased its output to twice its former size. The frontier type of wool growing made a total gain of about fifty per cent, but this increase has now stopped, and even while it continued it was neutralized by a decline in the farm type of wool growing. Neither of these wool-growing industries shows possibility of recovery on the old basis of operation. This group of wool-growing and manufacturing industries, taken as a whole, therefore, is now far less completely self-contained than it was thirty years ago. There seems to be every probability that the shortage of domestic wools for American mills will become even greater than it now is unless some change occurs to increase the growing of the farm type of wools. And even with this development it is probable that the demands of fashion would not permanently permit any large degree of neglect of the fine wool sheep.

The Wool-Growing Industries

In their present state of disorganization the prevailing forms of wool production cannot compete with other forms of agriculture. The inevitable conclusion seems to be that more serious attention must be given to increasing the earning power of sheep if the United States is to continue as a wool-growing country.

The situation is rendered additionally serious by the fact that what is happening in this country is taking place also to a certain extent in Australasia, the Argentine, and South Africa, the three chief sources for clothing and combing wools. Compared with the United States, each of these countries, however, has a

relatively larger area which, because of natural limitations, must remain pastoral.

A "cross section" through this group of American industries clearly reveals three facts: (1) The growing of territory wools under the old range conditions which have prevailed for forty years has evidently passed its maximum. But a portion of the territory section is well adapted to ranging and ill adapted to anything else, and at the same time the world's area for the supply of such wools as can thus be raised is decreasing. The problem here clearly is to save such part of the industry as has sound economic justification and to adapt the remainder to the new conditions. (2) The amount of fleece wools grown as an incident to general farming in the states east of the Mississippi River has steadily declined for over thirty years. The number of sheep raised per acre in the fleece wool section of this country is now far below that of England, in spite of the fact that most of the region could profitably carry at least as many sheep per acre as England. The problem here is to convince the farmers of the opportunity for suitable sheep-raising and to show them how the sheep industry may compete profitably with other types of agriculture. (3) The wool-manufacturing industries, when considered as a whole, are still increasing in capacity. Their problem is to secure an adequate supply of raw material at a reasonable price. These three facts closely parallel three features of the economical development of the country. The frontier has now disappeared; the conditions and methods of work in the regions adapted to intensive agriculture are only beginning to be studiously bettered; and the population and industries are being concentrated in cities.

An adequate grasp of the real significance of these conditions emphasizes the importance of the opportunity developed by the European War. The problems relating to the growing and selling of raw wool have

been given a new, and in many respects a more urgent importance. If the American wool-manufacturing industries are to continue to meet the increasing demands being made upon them, one or more of three changes may be looked for in their raw material supply: (1) These industries will be obliged to depend more and more upon the decreasing supplies of foreign wools; or (2) they must use an increasing quantity of other raw materials, such as hair, recovered wools, or cotton, linen, silk or other fibres; or (3) a larger supply of American wools must be produced by the adoption of more careful and more efficient methods of wool-growing. This would inevitably be accompanied by an elimination of some of the shortcomings of the existing marketing methods.

The war has given impetus to the belief that the third of these alternatives is the one which is most desirable from a national economic standpoint. As long as American flocks could fully, or in a large measure, supply to the American wool-manufacturing industries their raw materials the manufacturers were sufficiently interested in fostering American wool-growing to assume the annoyances resulting from a tariff protecting raw wools. They were willing to bear even the added financial burden which this protection involved as long as they were able to shift part of this burden to their consuming market. But when it became evident that the American wool-growing industries, even when protected, could not or would not keep pace with the increased demand for raw materials, their claim for protection was greatly weakened.

With the new emphasis placed by the war upon the arguments in favor of economic independence for the American wool industries, the wool-growers' situation is perfectly plain. An increased production is demanded of them and no great increase can be looked for under the methods which hitherto have prevailed. Either

the American growers will be obliged to produce wool with more attention to its marketing condition, and to other sheep products, or they will be compelled to cease trying to compete with countries which can do the work satisfactorily and more profitably. The desirability of the former alternative has been strengthened by the war. Indeed, in the light of the conditions which have developed in recent years in Australasia, South America, and South Africa, it seems clear that the wool-growing industry of the whole world is undergoing reorganization. The better growing and the better marketing of wools in the United States thus becomes an important part of any plan to preserve the sheep-raising industry in this country.

Great credit would inure to the growers in the territory section and the farmers of the fleece wool section if they had the resources for carrying out this work on their own initiative. Though the main burden of reorganization must necessarily fall on them, they have at their service now the Federal Department of Agriculture and the State Agricultural colleges which have already done valuable work in co-operating with the growers. The importance of the bearing of this movement upon the future of the American woolen and worsted industries can scarcely be overestimated.

Two separate lines of development may be looked for in "territory" wool-growing. A portion of the section in which this industry has flourished is adapted to sheep-ranging and is not well adapted to anything else. The introduction of irrigation, dry farming, and the purchase of water rights upon which these lands depend for value, will not entirely eliminate the availability of these areas for sheep-ranging. Nevertheless, in twenty years it seems probable that the sheep ranges will be reduced to a small fraction of their present extent, and that most of the territory flock-

masters, as they exist to-day, will either be engaged in some other business or be raising cross-bred sheep under either paddock or farm conditions.

The second line of development open to the "territory" wool area is the raising of mutton sheep. This form of sheep raising has already found a strong foothold in what has been hitherto a typically frontier section, and every year shows a distinct advance in methods of breeding and preparing wools for the market.

The changes in wool-growing methods in the "fleece" wool sections will apparently not be less important or radical than those undertaken in the "territory" section. It is declared that in most of the upper Mississippi valley the right kind of sheep, grown under proper conditions, can be made to yield a profit. New England, also, in all probability could profitably engage in sheep raising if it attacked the task seriously and intelligently, and with the utilization of all its resources.

In brief, then, in order to adjust this group of industries to the new conditions arising out of the war, American wool-growers must produce the wools needed by the American woolen and worsted industries, and prepare them for market as well as they can be prepared anywhere in the world. That this program is not only possible but should be profitable has been indicated in the foregoing discussion.

The Wool-Manufacturing Industries

The situation of the manufacturing industries is even more complex than that which faces the wool-growers. The market for the products of American woolen and worsted mills grows steadily, but the difficulties of manufacturing and distributing increase year by year. In short, the American woolen and worsted manufacturing industries are being obliged

to do an increasing volume of business under conditions which make it constantly more difficult to prevent a decrease in the margin of profit. The supply of raw material for these industries is mixed, varied, uncertain, and expensive. The labor problems grow more acute and more difficult to deal with every year. In nearly every department the costs of operation show a distinct inclination to become larger. The pressure of actual or potential competition from foreign manufacturers whose costs are demonstrably less, is always present. The problems of marketing cloth grow more complex and vexing every season.

The past ten years have seen remarkable changes in manufacturing methods. Mechanical efficiency of production in at least the staple lines has been greatly increased. The more progressive companies have bettered their internal organization and administration. It is in the buying and selling activities of the American woolen and worsted industries that there seems to be the most promising field for the expenditure of effort designed to enable these industries to meet the conditions which apparently will develop as a result of the war.

It is not the purpose of this discussion to indicate the details of any program for bringing to pass the adjustment of these industries to the new conditions. There are two types of effort, however, which any program ought to include; namely, such concerted action as may be engaged in legally, and, second, certain types of individual effort.

Among the types of concerted effort which suggest themselves are four which seem to be worthy of mention. (1) American woolen and worsted manufacturers have accomplished a great deal of good for themselves, and for the country at large, by attacking some of the most obvious evils which exist in present selling methods. The new conditions growing out of the war

will make these efforts more valuable than ever and ought to encourage their expansion in the future. Repudiation of contracts, which aggravates the unavoidable difficulties of cloth-selling, can eventually be reduced until it is a negligible factor among the cloth-manufacturer's problems.

(2) A number of the leaders in American cloth-production might find a valuable field for concerted work in a properly planned attempt to show the American public what advance has been made in this country in the production of really high-grade fabrics. If it is true, as has been said on excellent authority, that American fabrics are being made which sell in this country more readily as "imported" than they will as domestic products, it would seem to be a part of the responsibility of the American manufacturing industries to see to it that the American public knows the truth about these goods. There has never been a better time than the present to appeal to the patriotic spirit in matters of this kind.

(3) If several mills buried their individual differences and worked together, they could within a comparatively short time secure adequate governmental protection for designs. This would make it possible to avoid the evils of design piracy which now aggravate some of the most serious of the selling problems of the mills.

(4) The American cloth-manufacturer is now more or less at the mercy of changes in style and fashion. It probably would not be possible, even if it were desirable, for the American mills by concerted action to abolish or, to any great extent, to reduce this costly element in cloth-production. The question arises, however, whether it might not be possible for manufacturers, working together, to introduce more business-like methods into the development of styles and fashions than are present now. The concerted action

possible in this case, would include general appeals to the public in the way of education and training. Manufacturers could afford to encourage more intelligent buying of cloth, both in the piece and in the form of ready-to-wear clothing. The United States now offers a rich harvest to those Europeans who profit from the vagaries of style change. There is something sardonic about the amusement of the couturier as he contemplates the reaction of the American market to any style suggestion. Both the public and the manufacturers are paying dearly to support a condition in cloth-selling which is largely based on ignorance of cloth values.

The recent attention given to the co-ordination of resources in military affairs suggests the possibility of calling upon American artists and designers in various lines to establish a board of style strategy to study style motifs and then to introduce a greater degree of sanity into the setting and exploiting of styles and fashions.

Certain serious limitations stand in the way of concerted effort by associations in commercial matters. The four points mentioned, however, suggest lines of possible activity which exceed the limits of the power of concerns working individually.

The great part of the work of adjusting these American industries to new conditions, however, will fall upon the individual manufacturers. (1) In addition to any concerted effort that might be made in the direction of stabilizing style influence there seems to be possible a very substantial advance in the broadening of methods of designing fabrics. It is, of course, a very easy matter to say: "Be original," and it is a most difficult matter to carry out the injunction. But the dependence of American fabric designers upon suggestions drawn from Europe does not seem to be necessarily permanent or irremediable.

(2) Methods of competition are already being at-

tacked through associations, but there is much to be done by individuals in drawing a sharp line between the necessary, desirable, and unavoidable elements of competition, and those which are needlessly expensive and demoralizing. It is, perhaps, inevitable that the introduction of large-scale operations, both in production and in trading, should involve the necessity for painstaking readjustments. Moral standards in modern business are, on the whole, so high that unfair or questionable practices tend to be eliminated. But the process of elimination may be hastened by joint action and by individual efforts to establish and enforce recognized rules of commercial warfare.

(3) Not all, but some, of the mills can do much by the establishment of the identity of some of their products through brands or trade marks to secure for themselves and their product the confidence of the trade and of the public. This opportunity, however, is confined not merely to a limited number of mills, but to a restricted portion of the products of such mills as might take advantage of it.

(4) There is large opportunity for individual manufacturers to study the possibilities of so adjusting their selling plans to the mill output that the joint manufacturing and selling profit will represent a maximum. This involves, not only taking advantage of all advances in production methods, but also a consideration of style risk, style control, the new developments in the processes of distribution, and such other selling problems as modern conditions have brought to these industries. The results obtainable from scientific study of buying and selling promise to be at least as important as those which have followed scientific study of production. But valuable as are the results obtainable from the study of either of these two groups of problems by itself, the gain in efficiency made possible by an accurate adjustment between the two, promises to be even more worth while.

APPENDIX

CLASSIFICATION OF WOOLEN AND WORSTED MILLS

The following tables are the result of a count of names of woolen and worsted mills classified according to product in the Official American Textile Directory (1914) pp. 583-591. They show merely the number of mills, regardless of size:

Men's Wear (Woolen)

Massachusetts	58
Pennsylvania (Philadelphia 20)	41
Connecticut	32
Maine	32
Rhode Island	16
New York	13
Vermont	9
New Hampshire	11
Virginia	8
Tennessee	6
Wisconsin	5
Michigan	4
Kentucky	3
Ill., Ia., Md., Ohio, Ore., W. Va., (2 each)	12
Del., Ga., Ind., Minn., Mo., N. C., Utah, Wash., (1 each)	8
	258

Men's Wear (Worsted)

Massachusetts	49
Pennsylvania (Philadelphia 35)	45
Rhode Island	32
Connecticut	28
Maine	4
New Jersey	9
New York	6
New Hampshire	4
Maryland, Ohio (2 each)	4
Del., Ga., Ill., Ia., Tenn., Vt., Va., Wis., (1 each)	8
	199

Dress Goods (Woolen and Worsted)

Massachusetts	53
Pennsylvania (Philadelphia 41)	46
Maine	25
Connecticut	24
New Hampshire	16
Rhode Island	12
New York	10
New Jersey	8
Vermont, Maryland (3 each)	6
Ind., Ia., Wis. (2 each)	6
Del., Minn., Ohio, Ore., Tenn., Va., Wash., W. Va., (1 each)	8
	214

Cloakings

Massachusetts	23
Maine	17
Pennsylvania (Philadelphia 7)	11
Conn., N. H. (7 each)	14
Vermont	5
Ind., R. I., (3 each)	6
N. Y., N. J., Ohio (2 each)	6
Del., Ia., Md. (1 each)	3
	85

Satinets

Massachusetts	14
Vermont	2
Conn., Me., Ohio, Pa. (1 each)	4
	20

BLANKETS (Wool)

Pennsylvania (Philadelphia 6)	24
Massachusetts	10
Ohio	10
Maine	9
New Hampshire	6
Oregon	6
Virginia	6
Wisconsin	6
Ky., N. Y., N. C., Tenn., W. Va. (5 each)	30
Indiana	4
Iowa	3
Conn., Mich. (2 each)	4
Cal., Del., Ill., Mo., N. J., R. I., S. C., Wash. (1 each)	8
	126

FLANNEL (Wool)

Pennsylvania (Philadelphia 3)	20
Massachusetts	15
Minn., Wis. & N. H., (6 each)	18
N. Y., Ore., Va. (4 each)	12
Ia., Me., Ohio, W. Va. (3 each)	12
Conn., Ind., Mo., N. J., Tenn., Vt. (2 each)	12
Cal., Mich., Wash., (1 each)	3
	92

CARRIAGE CLOTHS

Massachusetts	7
N. Y., Ore. (4 each)	8
Me., N. H., R. I. (3 each)	9
Connecticut	2
N. J., N. Y., Ohio, Pa. (1 each)	4
	30

SHAWLS

New Jersey	4
Philadelphia	3
R. I., N. Y., Minn., Ore. (2 each)	8
Me., Ohio, Wis. (1 each)	3
	18

CAMELS HAIR CLOTH

Massachusetts	2
Ill., Me., Tex. (2 each)	6
	8

BUNTING

Massachusetts	3

The same directory (pp. 471-478) has a list of mills selling woolen and worsted yarns from which the following figures are compiled:

WOOLEN YARNS

Belgian system fine counts.

Woonsocket, R. I	5
Philadelphia, Pa	2
	7

Woolen warp and filling.

Philadelphia, Pa	9
Providence	2
All others	17
	28

Novelty yarns (woolen).

Philadelphia	2
All others	2
	4

Woolen and merino knitting yarn.

Philadelphia	17
Providence, R. I	4
All others	56
	77

Colored woolen yarns and mixes.

Philadelphia	3
Providence	1
All others	13
	17

Worsted Yarns

Bradford system (luster yarns).

Lawrence, Mass	1
Lowell, Mass	1
Pawtucket, R. I	1
Woonsocket, R. I	1
Philadelphia, Pa	2
All others	15
	21

Bradford system. Delaine, Australian Extra Fine quality.

Philadelphia	8
Providence	3
Lowell	2
Lawrence	1
Passaic	1
All others	3
	18

French spun fine qualities.

Philadelphia	5
Providence	4
Lawrence	2
Passaic	1
All others	4
	16

Bradford system (¼ to ⅜ blood).

Philadelphia	27
Providence	11
Lowell, Mass	2
Lawrence, Mass	2
Passaic, N. J	2
All others	46
	90

Bradford system — fancy mixtures.

Philadelphia	2
Providence	1
Lawrence	1
All others	5
	9

French spun (¼ to ⅜ blood).

Philadelphia	4
Providence	2
Lawrence	1
Passaic	1
All others	4
	12

French spun fancy mixtures	10
French spun worsted and cotton mixtures	3
Worsted boucle and bourette	3
Worsted genapped yarns	6
Mohair yarns	14

INDEX

Adams, Seth, 41
Africa, wool production of, in 1914, 33
Agricultural colleges, state, 243
Alexander II, of Russia, assassination of, 196
Almy, Frederick & Co., 125
Almy, William, 110
Almy & Brown, 110 f.
Almy, Brown & Slater, 110
Almy, Patterson & Co., 116
Alpaca, 28
American Association of Woolen and Worsted Manufacturers, the, 190
American State Papers, quoted, 5
American Woolen Company, the, 72, 122 ff., 210
Annual Report of the New York Chamber of Commerce, quoted, 186, 193
Anti-sweating Law, the in Massachusetts (1892), 197
Antwerp, wool sales at, 29
Appleton, Nathan, 112 f.; quoted, 115
Argentine Republic, the, 31, 32, 33, 34, 240; number of sheep in, 20; wool from, how brought to the United States, 29; sale of wool in, 59, 65
Arlington Mills, the, 76 (note 1), 121, 154 (note 2), 210
Army cloth, 6
Arnold, Madame, 167
Asia Minor, wools from, 30
Atlantic Mills, the, 116
Auctions, 66–72. *See* Australia, London
Australasia, 31 (note 2), 240, 243
Australia, chief source of the world's wool supply, 19 f.; paddock system prevails, 21, 31; net returns in, 23; Australian wool auctions, 23 ff., 65; Australian wool brought into the United States, 29; combing wools from, 30; decline in number of sheep, 32; wool production of, in 1913, 34; in 1914, 33; preparation of fleeces in, 49, 51
Austria, Turkish wools from, 30

Bagdad, 167
Bagnall, W. R., 4; quoted, 4, 5, 12 f., 13, 110, 111, 112, 128
Bakst, painter, 167
Balkan wars, the, 167
Baltimore, 144, 195, 199
Baltimore Bargain House, 146
Banking services of selling houses, 177 ff.
Bean, C. E. W., quoted, 24
Belgium, consumes Australian wool, 24; Turkish wools from, 30
Benjamin, Alfred, & Co., 206
Berlin, 136, 233
Between lines, 230
Bianchini-Ferier, designer, 177
Big Timber, Montana, 68
Billings, Montana, 62 (note 1), 68
Bishop, J. L., quoted, 5
Bissell, Josiah, 128
Bitter Creek, Wyoming, 51
Black-tops, 39
Blankets, 10, 123; a technical use of the word, 119, 179
Bliss, George, & Co., 141
Boer War, the, 24 (note 1)
Bon Marché, the, 225
Book houses, 158 f., 209 (note 1)
Boston, 52, 53, 60, 61, 66, 70, 71, 72, 116, 124, 126, 144, 195, 225; fine wools imported through, 29; second wool market in the world, 30; Poiret at, 171; Mme. Joire at, 172
Boston Herald, quoted, 171 ff.
Boston Manufacturing Company, the, 112
Boston Transcript, quoted, 185

Boston Wool Trade Association, the, 72
Boutet de Monvel, Roger, dramatist, 177
Bowers, Isaac, 113
Bradford, England, wool auctions at, 28; conditioning-house plan at, 72
"Bramble News," the, 114 f.
Brands in the cutting industry, 206, 208
British East Indian wools, 30
British India, wool production of, in 1914, 33
Broadcloths, 6, 12
Brown, Moses, 110
Brown, Walter, 68 (note 1)
Buckley & Claflin, 141
Buenos Ayres, city, 31
Buenos Ayres, province, 20
Bulletin of the National Association of Wool Manufacturers, the, vf., 3 (note 2); quoted, 4, 19, 25, 26, 31 f., 33, 34, 41, 67, 69, 70, 72, 132
Butler Bros., of Chicago, 146
Butterick Publishing Company, 161
Byfield, Massachusetts, 3

Caesar, H. A., & Co., 126
California, 63, 68
Camel's hair, 28
Canada, 30
Cancelations, 205, 246
Cape Province, sheep raising in, 21; wool from, 26; wool markets in, 65
Carding, used in the manufacture of woolen yarns, 1, 3, 4, 45 f., 78
Carpet wools, 42, 240; sales of, at Liverpool, 28
Cashmere, 28
Cassimeres, 6, 12
Catalog jobbing houses, 146
Cattle, increased cost of producing, 32
Centennial Exposition, the, 27
Chemnitz, 136
Cherington, P. T., quoted, 208, 210
Chicago, 52, 53, 70, 122, 143, 144, 156, 172, 181, 199, 210
China, 167; coarse wools of, 28; carpet wools from, 30
Cincinnati, 123, 143
Civil War, the, 3, 6, 129, 195, 237, 239
Claflin, H. B., & Co., 141; reorganization of, 150 f.
Claflin, Mellin & Co., 141
Clapham, J. H., v; quoted, 1, 8, 23, 25 f., 28, 29, 59, 80, 81, 82
Clapp, Thaddeus, 128
Cleveland, Ohio, 122, 210
Cloakings, 10
Cloak, Suit, and Skirt Manufacturers' Protective Association, 214
Cocheco Company, the, 116
Cole, A. H., 5 (note 4), 13 (note 3)
Collecting, 120
Colt, Elisha, 12, 112
Combing, used in the manufacture of worsted yarns, 1, 46, 83 ff.
Combing machines, development of, 7 f.
Combing wools, 22
Commercial problems, in relation to the historical development of the woolen trade, 10–15
Connell, George, 111
Coolidge, Cornelius, 41 (note 1)
Copeland, M. T., 13 (note 3); quoted, 152
Corset and Underwear Review, quoted, 225
Cosgriff, J. E., 71 (note 1)
Cotswolds, 40
Couturier, the 164–179, 247
Craigie, Andrew, and merinos, 41 f.
Cross-breds, 32, 39 f.
Cross-bred wools, 35 f.
Curtis Publishing Company, the, 209 (note 2), 220, 225
Cutting machine, the, 196

Daily Trade Record, quoted, 132
Daley's Ranch, Wyoming, 51
Dalgety, quoted, 31 f.
Delaines, 39
Delessert, 41
Dempsey, Louis, 161 f.
Denmark, Turkish wools from, 30
Department of Agriculture, the, v, 243
Department of Commerce and Labor, the, v

Department stores, 11, 224–236
Designing, 119. *See* Fashion, Style
Dommerich, L. F., & Co., 126
Drawing, 85 f.
Dress-goods, 10, 178–191
Drop shippers, 146 f.
Dry Goods Economist, the, 190; quoted, 167
Dry goods jobbers, 140–152
Dry goods wholesalers, 140–152
Dumping markets, 181, 188
Dunham, Buckley & Co., 141
Dunham, James H., & Co., 141
Dupont de Nemours, 41
Dutton, B. F., 225
Dyeing, 80
Dyestuffs, 238

Elastics, 12
Ely, Nevada, 51
Embargo, the, 4, 109
England, 8, 54 (note 1), 136, 241; coarse wools grown in, 24; lead of, in wool manufacturing, 27; sale of wools produced in, 28 f.; Australian and New Zealand wools come to the United States via, 29; importance of the sheep industry in, 37
Europe, 8, 37, 139, 173, 238; war conditions in, 130
European War, the, 237, 241
Exclusive agencies, 206
Extract, 18

Falkland Islands, 27, 28; wool from, 26
Fancies and extras, 230
Fashion, influence of, 11, 164–191, 246 ff.
Faulkner, Page & Co., 138
Fernandez, Madame Raimonde, 177
Fernley, Thomas A., 205 (note 1)
Fifteen rules, 50 f.
Finishing, 80 f.
First National Bank of Boston, 160
Flannel, 10
Fleeces, sorting and preparation of, 50–53
Fleece wools, 45, 54, 61, 64, 241
Fleece wool sections, the, 37
Flocks, 18
Folsom, Nathan D., 111
Foster, William, 40
France, 27, 190; consumes Australian wool, 24; Turkish wools from, 30; wool production of, in 1914, 33; importance of the sheep industry in, 37, 38
Free wool, probable effects of, on territory wool, 53 f.; on fleece wool, 54 f.
Frieze, Cone & Co., 125
Fulling, 2, 3
Full lines, 229 f.

Geelong, wool sale at, 25
General dry goods jobbers, 143 f.
Germany, 175, 238; consumes Australian wool, 24; Turkish wools from, 30; importance of the sheep industry in, 37
Gilling, 83
Grading, importance of, 49–53
Greasy wools, 25 f.
Great Falls, Montana, 68

Harding, Charles H., quoted, 25, 26 ff., 129
Hartford, Connecticut, 3
Hartford Woolen Manufactory, the, 3 f., 12, 112
Hart, Schaffner & Marx, 206
Hazards, the, manufacturers, 5
Heilmann comb, the, 8
Hill, H. A., quoted, 116
Holden comb, the, 8
Houghton, S. S., 225
Howe, Elias, 193 (note 2)
Humphreys, David, 41
Hunt, Freeman, quoted, 114, 115, 116

Imported fabrics, 128–139
Independent, The, quoted, 141
Indianapolis, 143
Interaction between mill and selling problems, 97–108
Iselin, William, & Co., 125
Italy, Turkish wools from, 30

Japan, purchases wool at Sydney, 24 (note 1)
Jarvis, William, 41
Jews, Russian, in New York, 196
Jobbers' Association of Dress Fabric Buyers, 161

Joire, Madame Henri, 172
Jordan Marsh Company, 225

Kansas City, Mo., 143
Kennedy, H. M., Jr., & Co., 125
Klein, J. R., & Company, 210
Kuppenheimer, B., & Co., 206

Labor, types of, 88 ff.; efficiency of, 90–95; labor problems grow more acute and more difficult, 245
Ladies' tailors, 159
Lawrence, Mass., 7, 9, 81, 116, 121
Lawrence, Abbott, 114 f.
Lawrence, Amos, 114 f.
Lawrence, Amos A., 116
Lawrence, A. and A., 114 f.
Lawrence, Samuel, 116 (note 1)
Lawrence, William, 116 (note 1)
Leicester, England, wool auctions at, 28
Le Minaret, 167 f.
Levy, A. L., 125
Linings, 202 f.
Lister comb, the, 8
Liverpool, 28, 30, 65
Livingston, R. R., 41
Local general jobbers, 144 f.
London, 30, 31, 179, 201, 233; wool auctions at, 24–28, 30, 65
Louisville, Ky., 143
Lowell, Mass., 81
Lowell, Francis C., 112, 113
Low wool sales, the, at London, 28

Machinery, American and imported, 87 f.
McPherson, John Bruce, quoted, 19, 41
Macy, R. H., 225
Mail order houses, 158
Manchester, England, 136
Mandarin coats, 167
Mannequins, 169, 173, 174
Manomet Mills, the, 121
Marvin, Winthrop L., 132
Mason, Robert, 116
Mason & Lawrence, 116
Massachusetts, 10, 60
Mass phenomena, 228
Melbourne, wool sale at, 25, 31
Men's cutting trades, the, 192–208
Men's piece goods, as affected by ready-to-wear clothing, 192–211
Men's wear, 10, 192–211
Merino sections, 37
Merinos, 32, 39 ff.
Merino wools, 35 f.
Merrimack Manufacturing Company, the, 115
Merrimack Power Association, the, 116
Middlesex Company, the, 116 (note 1)
Middle States, the, 6
Middle West, the, 6, 36, 146
Mill stylers, 170
Mohair, 28
Montana, vii, 43
Montevideo, 31
Mungo, 18
Mutton, 32

Napoleonic Wars, the, 109
Narrow cloths, 12
Nashawena Mills, the, 121
National Association of Clothiers, 205 (note 1)
National Association of Wool Manufacturers, the, 132
National Cloak, Suit, and Skirt Manufacturers' Association, the, 185, 190 (note 2)
National Garment Workers of America, 197
National Garment Workers' Union, 197
National Wholesale Dry Goods Association, 205 (note 1)
National Wool Growers' Association, the, 70
National Wool Warehouse and Storage Co., the 52 f., 70, 71 (note 1)
Near East, the, coarse wools of, 21 f., 28
Nevada, 181
New Bedford, Mass, 121, 225
New England, 4, 6, 36, 37, 41, 60, 123, 206, 210; decline of the sheep industry in, 54 (note 1); opportunities for sheep raising, 244
New Hampshire, 225
New Jersey, 139
New South Wales, number of sheep in, 19

New York City, vii, 122, 146, 161, 172, 173, 177, 210, 225, 233; carpet wools imported through, 29; the chief cloth market of the country, 124, 126; woolen and worsted fabrics mostly imported through, 136; general dry goods jobbing houses in, 140–143, 156; specialty business replaces general dry goods jobbing, 149; styles exhibitions at, 181, 182; men's ready-to-wear clothing industry at, 193–208; women's ready-to-wear clothing industry at, 213–223
New York, state, 144
New York Central lines, the, 122
New York Chamber of Commerce Report, quoted, 152
New York Journal of Commerce, quoted, 131 f., 135, 136, 137, 138, 139, 148, 150, 160 f., 162, 184, 185 f., 201, 207, 209, 215, 220, 221 f., 235
New York Times, quoted, 167, 176, 177
New York Wool Club, the, 66
New York Wool Exchange, the, 65–68
New Zealand, sheep raising in, 21; wool from, brought into the United States, 29; wool production of, in 1914, 33; combing wools from 30; preparation of fleeces in, 51
Noble comb, the, 8
Noils, 1
Non-Intercourse Act, the, 4
Nonquitt Spinning Company, 121
North, S. N. D., 3 (note 2)
North Africa, wools from, sold at London, 28
North Carolina, 146
Norwich, R. I., 110
Novelties, emphasis on style authority in, 101 f., 106

Official American Textile Directory, quoted, 124 ff.
Ohio, 45, 144
Oliver, Francis J., 41
Omaha, 69
Oregon, 63, 68
Ortiz, Philippe, 177

Pacific Mills, the, 116
Packing, importance of, 49–53
Paddock system of sheep raising, 21, 31
Page, Edward D., 138, 143; quoted, 141 f.
Paige, J. W., 114
Palm Beach Suits, 201 (note 2)
Paquin, Madame, 172 f.
Paris, 136, 139, 189 (note 1), 225, 233; setting of styles at, 164–178
Parlin, C. C., 220, 225 ff.
Passavant & Co., 126
Pennsylvania, 10, 45, 60, 144
Pennsylvania Railroad, the, 123
Philadelphia, 4 (note 1), 7, 9, 52, 53, 60, 61, 70, 81, 123, 144, 172, 195, 199; formerly a center for selling houses, 124.
Philadelphia Textile School, the, 26
Philadelphia Wool and Textile Association, the, 56
Philadelphia Wool Trade Association, the, 72
Pioneer shed, the, 51
Pittsburgh, Pa., 123, 143, 172
Pittsfield, Mass., 128
Poiret, Paul, designer, 167, 171 f., 175 f., 177
Pope, J. E., quoted, 196
Portsmouth, N. H., 111
Power looms, introduction of, 5
Power spinning, introduction of, 5, 13
Price, E. V. & Co., 206 (note 1)
Providence, R. I., 5, 7, 9, 81
Punta Arenas, 26

Quakers, the, 191
Quarterly Journal of Economics, quoted, 104

Rambouillets, 39
Range system of sheep raising, 21, 31
Raw materials, classified, 16–19
Ready-to-wear clothing, men's, 192–211; women's, 212–223
Recovered wools, 18 f.
Rhode Island, 10, 60
Richepin, Jacques, 167
Ritz-Carlton, the, 177
River Plate, the, 26
Riviera, the, 165, 169

Rochester, N. Y., 122, 199
Rogers, Peet & Co., 206
Roubaix, wool sales at, 29
Rouse, Charles B., 146
Royal Tailors, the, 206 (note 1)
Rue de la Paix, the, 173, 177
Russia, coarse wools of, 28; carpet wools from, 30; wool production of, in 1914, 33; sale of wool in, 59

St. Joseph, Mo., 143
St. Louis, 123, 143, 156
San Francisco, 63, 210
Schefer, Schramm & Vogel, 125
Scholfield, Arthur, 128
Scholfields, the (John, Arthur, James, and their descendants), 3
Scotland, 30, 54 (note 1); importance of the sheep industry in, 37, 38
Scoured wool, 26
Scouring, 76 ff.
Scouring tests, 72
Sears, Roebuck & Co., 206
Seasonal calendar, the, 231 f.
Selling Forces, quoted, 209, 226
Selling house, the, 13, 109–127
Senkel, W., quoted, 26
Sheep breeding, works on, v
Sheldon, quoted, 199, 210, 214
Shoddy, 18 f.
Shropshires, 40
Skin wool, 26
Slater, Samuel, 110
Slipe, 26
Small local jobbing houses, 145 f.
Solon, Wyoming, 51
South Africa, 31, 240, 243; number of sheep in, 21; wool from, sold at London, 28; wool production of, in 1914, 33
South America, 194, 243; number of sheep in, 20; ranging prevalent in, 21; net returns in, 23; wools from, sold at London, 28; combing wools from, 30
Southern wools, 62
Spain, wool production of, in 1914, 33
Special Report of the Sheep Industry in the United States, quoted, 41
Specialty jobbing houses, 144
"Speculators' wool," 26
Spinning, 78 f.
Staples, emphasis on volume in, 100 f.
Stein, S., & Company, 210
Stein-Bloch Co., 206
Stevens, Mallet, 172, 173
Style, influence of, 11, 164–191, 246 ff.
Swiss resorts, the, 165
Sydney, public sales at, 31
Syndicate for the protection of French dressmaking, the, 175 f.

Taft, Royal C., quoted, 3, 5
"Tailors to the trade," 206
Talbot & Co., 206
Talcott, James, 7
"Talking Rags," 177
Tariff, the publications on, vf.; and wool, 35, 36; of 1816, 4 f.; of 1828, 5; Wilson (1894–97), 7, 129, 133; Simmons-Underwood (1913), 42, 130–134, 138
Tariff Board Report, the, vi; quoted, 6, 7, 9, 16, 19, 20, 21, 22, 23, 31, 32, 40, 43, 87, 89, 90–95, 98 f., 103, 106, 107 f., 193, 198, 199, 200, 202 f., 204, 213, 216 ff.
Tasmania, 25 (note 1), 32
Taussig, F. W., vi; quoted, 5, 7, 35, 38
Technical processes of the woolen and worsted industries, 75–96
"Territory" section, the, 36, 37, 243
Territory wools, 42–45, 53 f., 62, 63
Texas, 42
Textile Manufacturers' Journal, quoted, 52 f.
Toledo, O., 185
Tops, 1
Trade-marked clothes, 206
Trade-marked woolens, 210 f.
Tradesmen's National Bank, the, 66
Trimmings, 202 f., 203
Turkey, 30; wool production of, in 1914, 33
Turkish wools, 30

United Kingdom, the, 30, 33, 34; prevalence of mutton sheep in, 22; carpet wools from, 30; number of sheep to the square mile, 54 (note 1)

United States, history of the woolen industry in, 2–15; net return from western sheep, 23; consumes Australian wool, 24; the domestic wool supply, 37–57; further consideration of the woolen industry in, See Table of Contents, 58–248; military value of an American wool-growing industry, 237 f.
United States Bureau of Labor Statistics, the, 212 (note 1)
United Stated Census, quoted, 18
Uruguay, 34; sheep raising in, 20 f.; wool from, how brought to the United States, 29 f.; wool production of, in 1914, 33; sale of wool in, 59

Vermont, merino industry in, 40, 41
Victoria, wool sales in, 25
Vienna, 136
Virginia, 146

Waltham, Mass., 112
Wamsutter, Wyoming, 51
Wansey, Henry, 12
Ward, Benjamin C., 112, 113, 114
Ward, Montgomery, & Co., 206
Warehouses and auctions, 66–72
War of 1812, the, 4, 109; flood of British goods sent to America at its close, 4
Washed fleece, 26
Washington, state, 63
Weaving, 79 f.
Weld, L. D. H., quoted, 104 f.
Western Australia, 24
West Indies, 194
Welling & Company, 141
West Virginia, 45
Wetherill, Samuel, Jr., 4 (note 1)
White, George S., quoted, 110
Willamette Valley, the, 63
Whitman, William, Company, Inc., 121
Williams, Jeremiah, 72 (note 2)
Willis, W. P., & Company, 210
Wing, Joseph E., v; quoted, 38, 39
Wisconsin, 45
Women's piece goods, 153–191, 212–236
Women's Wear, quoted, 182
Wool Exchange, the, at London, 25
Woolen and worsted industries in America, *see* Table of Contents
Woolens, how different from worsteds, 1
Wool-growing, works on, v; character of, changed by changing demands for fabrics, vi
Wool merchant, work of the, 58–74
Worsted mills, geographic concentration of, vi f.
Worsteds, how different from woolens, 1
Worth, Jacques, 177
Wright, C. W., vi; quoted, 31, 46, 58
Wyoming, 43
Wyoming Wool Growers' Association, 69

Zipser, Julius, v; quoted, 77, 78

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